9-2330-235-14+P

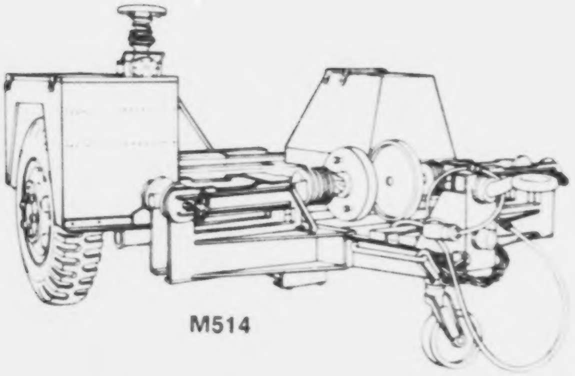
TM 9-2330-235-14&P

TECHNICAL MANUAL

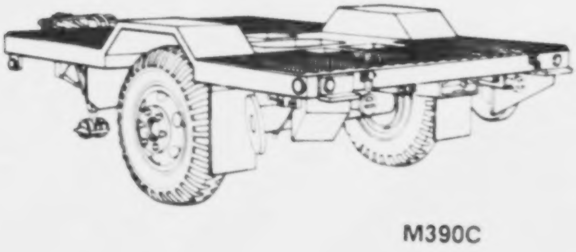
OPERATOR'S, UNIT, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS)

FOR

TRAILER, CHASSIS: 1-TON, 2-WHEEL
M514 (NSN 2330-00-542-5753)
AND
TRAILER, CHASSIS: 2-TON, 2-WHEEL
M390C (NSN 2330-00-542-3491)



M514



M390C

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This manual supersedes TM 9-2330-235-14, dated 3 November 1972, and all changes.

Approved for public release; distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY OCTOBER 1990

D 101.11:

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FOR INFORMATION ON FIRST AID, REFER TO FM 21-11.

WARNING

ASBESTOS HAZARD

DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious illness or death to personnel.

WARNING

COMPRESSED AIR

Compressed air used for cleaning or drying purposes, or for clearing restrictions, should never exceed 30 psi (207 kPa). Wear protective clothing (goggles/shield, gloves, etc.) and use caution to avoid injury to personnel.

WARNING

COUPLING AND UNCOUPLING TRAILER

All personnel must stand clear of towing vehicle and trailer during coupling and uncoupling operations. Failure to follow this warning may result in serious injury or death to personnel.

WARNING

DRY CLEANING SOLVENT

Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F–130°F (38°C–59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

WARNING

ELECTRICAL SYSTEM

When troubleshooting an electrical malfunction or performing electrical maintenance, ALWAYS disconnect intervehicular cable from towing vehicle. Failure to do so may result in injury or death due to electric shock.

WARNING

IMPROPER USE OF LEVELING JACKS

Do not attempt to raise trailer with leveling jacks. Extend leveling jacks until shoes just touch ground. Failure to do so could cause injury to personnel or damage to equipment.

WARNING

SECURING TRAILER

If trailer is not coupled to towing vehicle, ensure that wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

WARNING

SUPPORTING M390C TRAILER

- Weight distribution on the M390C trailer requires that rear leveling jacks remain lowered until after trailer is coupled to towing vehicle. If rear leveling jacks are raised before coupling is complete, trailer could tip, causing injury to personnel and damage to equipment.
- Weight distribution on the M390C trailer requires that rear leveling jacks be lowered to support position before disconnecting trailer from towing vehicle. Failure to do so could cause trailer to tip, causing injury to personnel and damage to equipment.

WARNING

USING UNAUTHORIZED CLEANING METHODS

Improper cleaning methods and use of authorized cleaning liquids or solvents can injure personnel and destroy equipment. To prevent this, refer to TM 9-247 for further instructions.

*TM 9-2330-235-14&P

TECHNICAL MANUAL

TM 9-2330-235-14&P

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., *26 October 1990*

OPERATOR'S, UNIT, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LISTS)

FOR

TRAILER, CHASSIS: 1-TON, 2-WHEEL
M514 (2330-00-542-5753)
AND
TRAILER, CHASSIS: 2-TON, 2-WHEEL
M390C (2330-00-542-3491)

Current as of 13 April 1990

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (*Recommended Changes to Publications and Blank Forms*), or DA Form 2028-2, located in the back of this manual, direct to: Commander, U.S. Army Tank-Automotive Command, ATTN: AMSTA-MB, Warren, MI 48397-5000. A reply will be furnished to you.

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CHAPTER 1
INTRODUCTION

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1-1. SCOPE.

a. **Type of Manual.** Operator's, Unit, Direct Support, and General Support Maintenance Manual (Including Repair Parts and Special Tools Lists).

b. **Model Numbers and Equipment Names.**

(1) Trailer, Chassis: 1-Ton, 2-Wheel, M514.

(2) Trailer, Chassis: 2-Ton, 2-Wheel, M390C.

1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS.

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750, *The Army Maintenance Management System (TAMMS)*.

1-3. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE.

For information on destruction of Army materiel to prevent enemy use, refer to TM 750-244-6.

1-4. PREPARATION FOR STORAGE OR SHIPMENT.

For information on preparing the trailers for storage or shipment, refer to Chapter 4, Section XIV.

1-5. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIRs).

If your trailer needs improvement, let us know. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on an SF 368 *(Quality Deficiency Report)*. Mail it to us at: Commander, U.S. Army Tank-Automotive Command, ATTN: AMSTA-MP, Warren, MI 48397-5000. We'll send you a reply.

Section II. EQUIPMENT DESCRIPTION AND DATA

Paragraph Title	Page Number
Differences Between Models	1-7
Equipment Characteristics, Capabilities, and Features	1-2
Equipment Data	1-7
Location and Contents of Plates	1-5
Location and Description of Major Components	1-3

1-6. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.

a. The M514 and M390C Chassis Trailers are designed to be towed by a towing vehicle with a minimum air supply of 100 psi (690 kPa) and a 24-volt electrical system.

b. Maximum towing speed is 50 mi/h (80 km/h) highway and 25 mi/h (40 km/h) cross-country.

c. Major features of the trailers include:

(1) Electrical system operates in standard and blackout modes.

(2) Leveling jacks provide a method of leveling and stabilizing the trailer.

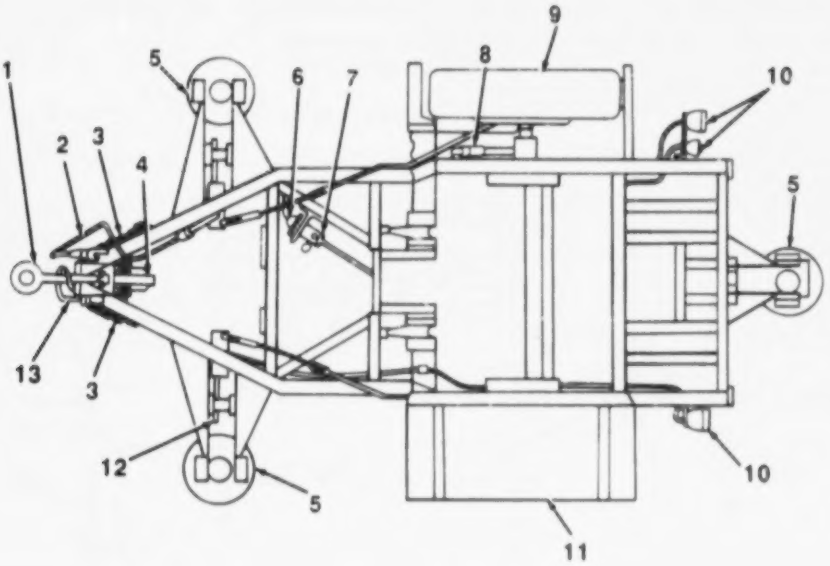
(3) Stepladder allows the operator to board the trailer (M390C).

(4) Air-over-hydraulic service brakes use air pressure from the towing vehicle.

(5) Retractable support assembly supports the front of the trailer when not coupled to the towing vehicle.

1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

a. M514.



Key	Component	Description
1	Lunette	Couples trailer to the towing vehicle.
2	Intervehicular Air Hose	Connects towing vehicle brake system to the trailer.
3	Safety Chains	Reinforce trailer-to-towing vehicle coupling.
4	Retractable Support Assembly	Supports the front of the trailer when not coupled to the towing vehicle.
5	Leveling Jacks	Level and stabilize the trailer.
6	Airbrake Chamber	Converts air pressure to mechanical force to actuate the brakes.
7	Master Cylinder	Converts mechanical force to hydraulic pressure to actuate the brakes.
8	Shock Absorbers	Cushion road shock.
9	Tires	Support trailer load.
10	Lights	Consist of blackout stoplight and taillight stoplight assemblies, or composite light assemblies.
11	Toolbox	Stores tools.
12	Handbrake Lever	Actuates the brakes when trailer is stopped or parked.
13	Intervehicular Cable	Connects towing vehicle electrical system to the trailer.

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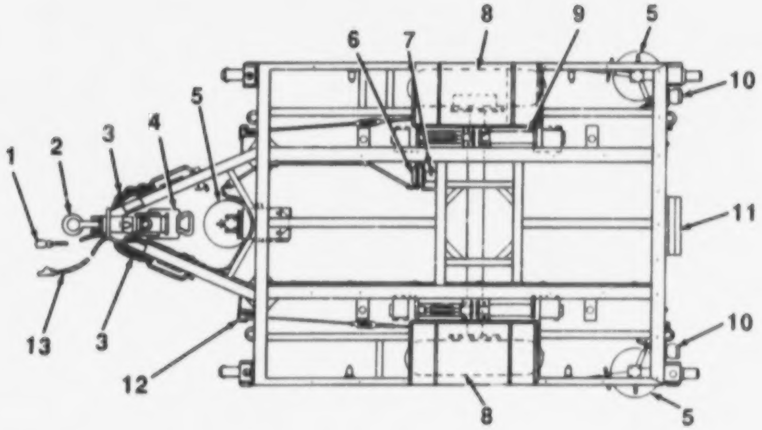
1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (Con't).

b. M390C.



Key	Component	Description
1	Intervehicular Cable	Connects towing vehicle electrical system to the trailer.
2	Lunette	Couples trailer to the towing vehicle.
3	Safety Chains	Reinforce trailer-to-towing vehicle coupling.
4	Retractable Support Assembly	Supports the front of the trailer when not coupled to the towing vehicle.
5	Leveling Jacks	Level and stabilize the trailer.
6	Airbrake Chamber	Converts air pressure to mechanical force to actuate the brakes.
7	Master Cylinder	Converts mechanical force to hydraulic pressure to actuate the brakes.
8	Tires	Support trailer load.
9	Springs	Cushion road shock.

TA504722

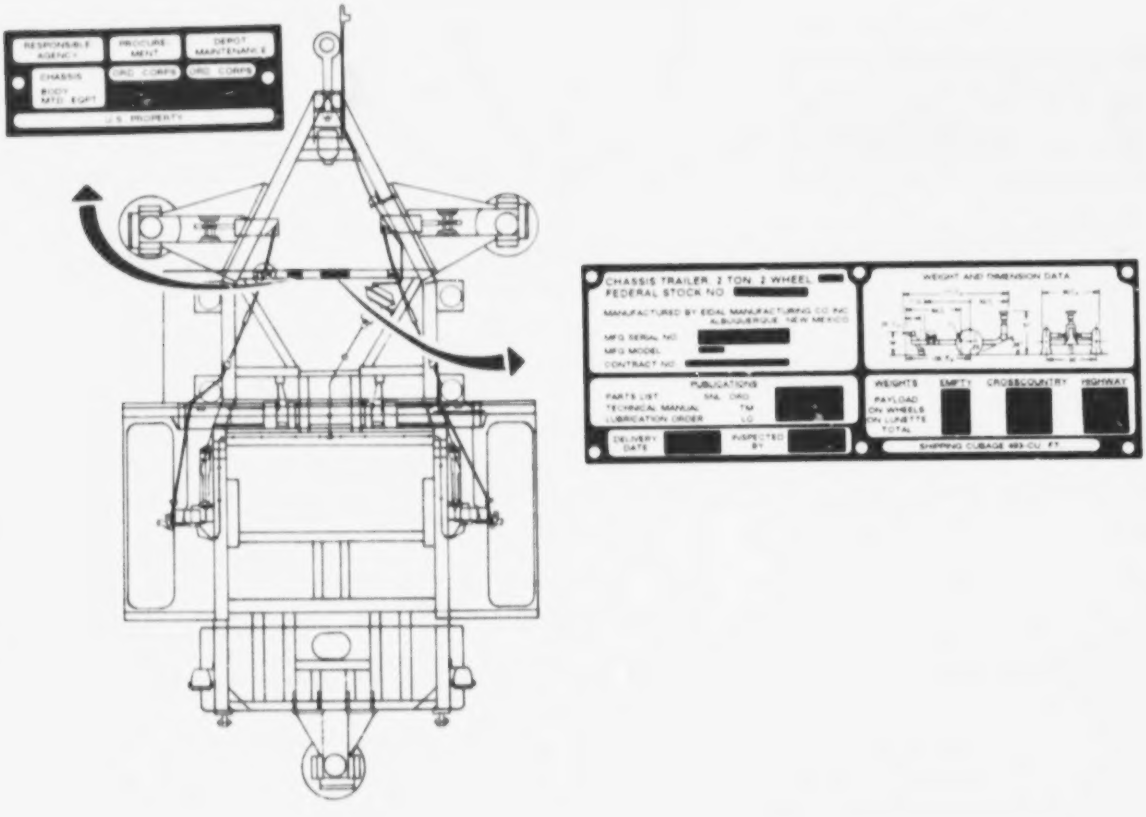
1-7. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (Con't).

Key	Component	Description
10	Lights	Consist of blackout stoplight and taillight stoplight assemblies, or composite light assemblies.
11	Stepladder	Allows operator to board the trailer.
12	Handbrake Lever	Actuates the brakes when trailer is stopped or parked.
13	Intervehicular Air Hose	Connects towing vehicle brake system to the trailer.

1-8. LOCATION AND CONTENTS OF PLATES.

a. **General.** Maintain all plates so that all information remains legible. If any plate is missing or no longer legible, notify unit maintenance.

b. **M514.**


RESPONSIBLE AGENCY
PROCUREMENT
DEPOT MAINTENANCE
CHASSIS
BODY
MTD EQPT
ORD CORPS
ORD CORPS
U.S. PROPERTY
CHASSIS TRAILER 2 TON 2 WHEEL
FEDERAL STOCK NO
MANUFACTURED BY EIDAL MANUFACTURING CO INC
ALBUQUERQUE NEW MEXICO
MFG SERIAL NO
MFG MODEL
CONTRACT NO
PUBLICATIONS
PARTS LIST SNL ORD
TECHNICAL MANUAL TM
LUBRICATION ORDER LO
DELIVERY DATE
INSPECTED BY
WEIGHT AND DIMENSION DATA
WEIGHTS
EMPTY
CROSSCOUNTRY
HIGHWAY
PAYLOAD
ON WHEELS
ON LUNETTE
TOTAL
SHIPPING CUBAGE 493 CU FT

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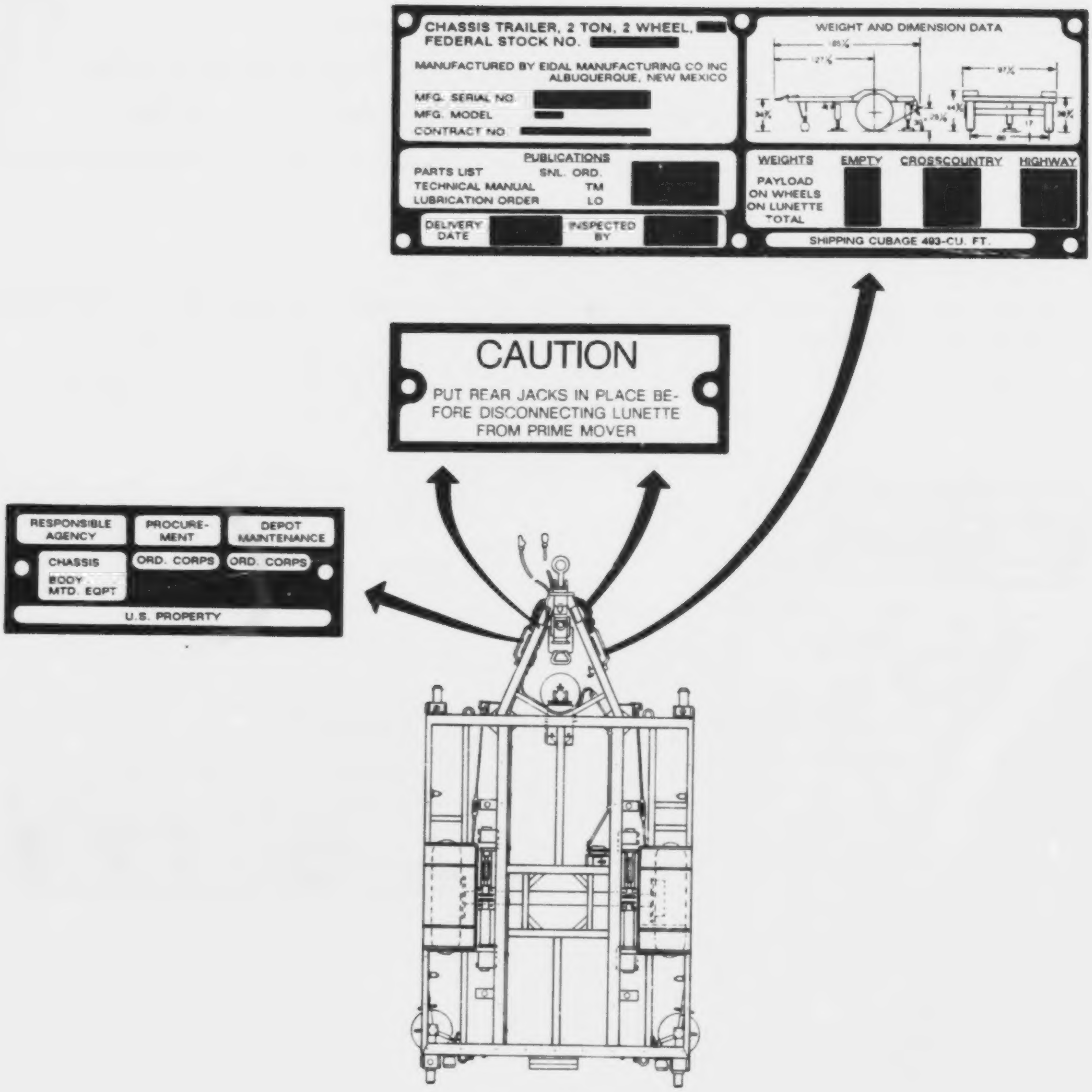
1-8 LOCATION AND CONTENTS OF PLATES (Con't).

c. M390C.


CHASSIS TRAILER, 2 TON, 2 WHEEL,
FEDERAL STOCK NO.
MANUFACTURED BY EIDAL MANUFACTURING CO INC ALBUQUERQUE, NEW MEXICO
MFG. SERIAL NO.
MFG. MODEL
CONTRACT NO.
PUBLICATIONS
PARTS LIST SNL. ORD.
TECHNICAL MANUAL TM
LUBRICATION ORDER LO
DELIVERY DATE
INSPECTED BY
WEIGHT AND DIMENSION DATA
WEIGHTS
EMPTY
CROSSCOUNTRY
HIGHWAY
PAYLOAD
ON WHEELS
ON LUNETTE
TOTAL
SHIPPING CUBAGE 493-CU. FT.
CAUTION
PUT REAR JACKS IN PLACE BEFORE DISCONNECTING LUNETTE FROM PRIME MOVER
RESPONSIBLE AGENCY
PROCUREMENT
DEPOT MAINTENANCE
CHASSIS
BODY MTD. EQPT
ORD. CORPS
ORD. CORPS
U.S. PROPERTY

TA504724

1-9. DIFFERENCES BETWEEN MODELS.

Differences between the M514 and M390C Chassis Trailers are limited to variations in the frame, suspension system, retractable support assembly, and leveling jacks.

1-10. EQUIPMENT DATA.

	M514	M390C
Manufacturer:	Fruehauf Trailer Co.	Eidal Manufacturing Co.
Weights:		
Chassis	2430 lb (1103 kg)	3650 lb (1657 kg)
Payload	2500 lb (1135 kg)	4000 lb (1816 kg)
Total	4930 lb (2238 kg)	7650 lb (3473 kg)
Dimensions (overall):		
Ground Clearance	17 in. (43.2 cm)	10¾ in. (27.3 cm)
Floor Height (loaded)	36¾ in. (93.3 cm)	22 in. (55.9 cm)
Width	97¼ in. (247.0 cm)	90$\frac{7}{16}$ in. (229.7 cm)
Length	185⅛ in. (470.2 cm)	171 in. (434.3 cm)
Angle of Departure	30°	28°
Suspension:	Torsion Bar	Leaf Springs
Brakes:		
Handbrake Actuation	Mechanical	
Service Brakes:		
Actuation	Air-over-hydraulic	
Operating Pressure	100 psi (690 kPa)	
Wheels:		
Type	Military Offset Disk	
Rim Size	20 x 7.5	
Tires:		
Type	Military 8-ply Nondirectional Tread	
Size	9.00-20	
Inflation Pressure:		
Highway	50 psi (345 kPa)	
Cross-country	35 psi (241 kPa)	
Mud, Sand, or Snow	15 psi (103 kPa)	
Maximum Towing Speed:		
Highway	50 mi/h (80 km/h)	
Cross-country	25 mi/h (40 km/h)	
Number of Leveling Jacks	3	
Electrical System	24-volts	

CHAPTER 2
OPERATING INSTRUCTIONS

Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS

Paragraph Title	Page Number
General	2-1
Handbrake Levers	2-1
Lights	2-1
Retractable Support Assemblies	2-1
Service Brakes	2-1
Stepladder (M390C)	2-2

2-1. GENERAL.

This section describes the function of all operator's controls and indicators on the M514 and M390C Chassis Trailers. Review this section thoroughly before operating the trailer. Refer to paragraph 1-7 for illustrations showing the location of operator controls.

2-2. LIGHTS.

The trailer taillights, stoplights, blackout lights, and composite lights are operated from the towing vehicle.

2-3. HANDBRAKE LEVERS.

a. **M514**. The two handbrake levers are located near the front of the trailer, one beneath each front leveling jack support assembly. Pull handbrake levers toward front of trailer to apply brakes. Push handbrake levers toward rear of trailer to release brakes.

b. **M390C**. The two handbrake levers are located near the front of the trailer, one on each side of the trailer drawbar. Raise handbrake levers to vertical position to apply brakes. Lower handbrake levers to horizontal position to release brakes.

2-4. SERVICE BRAKES.

The trailer service brakes are actuated by an air-over-hydraulic system. Air pressure for the service brakes is received from the towing vehicle through the intervehicular air hose. The controls are located in the towing vehicle.

2-5. RETRACTABLE SUPPORT ASSEMBLIES.

a. **M514**. The retractable support assembly is used for supporting the front of the trailer when not coupled to a towing vehicle.

2-5. RETRACTABLE SUPPORT ASSEMBLIES (Con't).

b. M390C.

(1) The retractable support assembly is used for supporting the front of the trailer when not coupled to a towing vehicle.

(2) The support consists of a crank-operated, screw-type jack equipped with two steel wheels and a ground pad for increased flotation on soft ground.

(3) The retractable support assembly handcrank, located on the left side of the support, is bolted to the retractable support assembly input bevel gear. A clip, welded to the support frame, is used to store the handcrank when not in use.

(4) The retractable support assembly is secured in either the raised or lowered position by the spring-loaded locking handle.

2-6. STEPLADDER (M390C).

A stepladder is provided at the rear of the trailer. A hinged latch holds the stepladder under the frame when not in use.

Section II. OPERATOR/CREW PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

Paragraph Title	Page Number
General	2-3
Maintenance Forms and Records	2-3
Operator/Crew Preventive Maintenance Checks and Services (PMCS), Table 2-1	2-5
PMCS Procedures	2-3

2-7. GENERAL.

a. Preventive maintenance is detecting/correcting problems before they happen, or fixing minor problems before they become major problems.

b. Table 2-1 contains a list of preventive maintenance checks and services to be performed by the operator/crew. Attention to these checks and services will increase the useful life of the equipment.

c. Every possible problem cannot be covered in the PMCS. Be alert for anything that might cause a problem.

2-8. MAINTENANCE FORMS AND RECORDS.

Every mission begins and ends with paperwork. There is not much of it, but you have to keep it up. The forms and records you fill out have several uses. They are a permanent record of the service, repairs, and modifications made on your trailer. They are reports to organizational maintenance and to your commander. They are a check list for you when you want to know what is wrong with the trailer after its last use, and whether those faults have been fixed. For the information you need on forms and records, refer to DA Pam 738-750.

2-9. PMCS PROCEDURES.

a. While performing your PMCS, pay attention to all WARNINGs and CAUTIONs.

b. Table 2-1 lists the inspections and services required to keep the trailer in good operating condition. Perform these inspections and services at the following intervals:

(1) Perform *Before* (B) PMCS before operating the trailer.

(2) Perform *During* (D) PMCS while operating the trailer.

(3) Perform *After* (A) PMCS right after operating the trailer.

(4) Perform *Weekly* (W) PMCS once each week.

c. If something doesn't work, troubleshoot it with the instructions in this manual and notify your supervisor.

d. Always do your PMCS in the same order so it gets to be a habit. Once you've had some practice, you'll spot anything wrong in a hurry.

e. If anything looks wrong and you can't fix it, write it on your DA Form 2404. If you find something seriously wrong, IMMEDIATELY report it to unit maintenance.

2-9. PMCS PROCEDURES (Con't).

f. When you perform PMCS, take along the tools you need to make all the checks. You'll always need a rag (Item 14, Appendix E) or two.

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-130°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

(1) **Keep It Clean.** Dirt, grease, oil, and debris get in the way and may cover up a serious problem. Clean as you work and as needed. Use dry cleaning solvent (Item 7, Appendix E) on all metal surfaces. Use soap (Item 6, Appendix E) and water when you clean rubber or plastic.

(2) **Bolts, Nuts, and Screws.** Check them all for obvious looseness, missing, bent, or broken condition. You can't try them all with a tool, of course, but look for chipped paint, bare metal, or rust around bolt heads. If you find one you think is loose, tighten it or report it to unit maintenance if you can't tighten it.

(3) **Welds.** Look for loose or chipped paint, rust, or gaps where parts are welded together. If you find a bad weld, report it to unit maintenance.

(4) **Electric Wires and Connectors.** Look for cracked or broken insulation, bare wires, and loose or broken connectors. Tighten loose connectors and make sure the wires are in good condition.

(5) **Air and Hydraulic Hoses and Lines.** Look for wear, damage, and signs of leaks. Ensure that clamps and fittings are tight. Wet spots indicate leaks, of course, but a stain around a fitting or connector can also mean a leak. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out, report it to unit maintenance.

(6) **Fluid Leakage.** It is necessary for you to know how fluid leakage affects the status of your trailer. The following are definitions of the types/classes of leakage you need to know to be able to determine the status of your trailer. Learn and be familiar with them, and remember — when in doubt, notify your supervisor!

Leakage Definitions for Operator/Crew PMCS

Class I	Seepage of fluid (as indicated by wetness or discoloration) not great enough to form drops.
Class II	Leakage of fluid great enough to form drops, but not enough to cause drops to drip from the item being inspected.
Class III	Leakage of fluid great enough to form drops that fall from the item being inspected.

CAUTION

When operating with Class I or II leaks, continue to check fluid levels in addition to that required in PMCS. Parts without fluid will stop working or may be damaged.

(a) Equipment operation is allowable with minor (Class I or II) leakage. Fluid levels in an item/system affected with such leakage must be checked more frequently than required in PMCS. When in doubt, notify your supervisor.

(b) IMMEDIATELY report Class III leaks to unit maintenance.

2-9. PMCS PROCEDURES (Con't).

g. The columns in Table 2-1 are defined as follows:

(1) **Item No.** The number in this column shall be used as a source of item numbers for the "TM ITEM NO." column on DA Form 2404 in recording results of PMCS.

(2) **Interval.** Tells you when to do a certain check or service.

(3) **Item To Be Inspected.** Lists system and common names of items that are to be inspected. Included in this column are specific servicing, inspection, replacement, or adjustment procedures to be followed. Carefully follow these instructions. If you do not have the tools, or if the procedure tells you to, have unit maintenance do the work.

(4) **Equipment Is Not Ready/Available If.** This column tells you when and why the trailer cannot be used.

NOTE

The terms "ready/available" and "mission-capable" refer to the same status: Trailer is on hand and is able to perform its combat missions (AR 700-138).

Table 2-1. Operator/Crew Preventive Maintenance Checks and Services (PMCS).

B - Before D - During A - After W - Weekly

ITEM NO.	INTERVAL				ITEM TO BE INSPECTED PROCEDURE: Check for and have repaired, filled or adjusted as needed.	Equipment Is Not Ready/Available If:
	B	D	A	W		
					NOTE **Perform Weekly as well as Before PMCS if:** **a. You are the assigned operator but have not used the trailer since the last weekly check.** **b. You are operating the trailer for the first time.**	
1					TIRES	
	●				Check tires for obviously low pressure, deep cuts, foreign objects, unusual tread wear and proper inflation (para 1-10).	One or more tires flat, missing, or unserviceable.
2					WHEELS	
	●				Check wheels for damage. Ensure that all wheel stud nuts are present and secure. If wheel stud nuts are obviously loose, notify unit maintenance to apply proper torque.	Two or more wheel stud nuts missing on one wheel.
3					INTERVEHICULAR AIR HOSE	
	●				Ensure that intervehicular air hose is in good condition and securely connected. Check for missing or damaged glad hand preformed packing.	Missing or damaged air hose or preformed packing.

Table 2-1. Operator/Crew Preventive Maintenance Checks and Services (PMCS) (Con't).

B - Before D - During A - After W - Weekly

ITEM NO.	INTERVAL				ITEM TO BE INSPECTED PROCEDURE: Check for and have repaired, filled or adjusted as needed.	Equipment Is Not Ready/Available If:
	B	D	A	W		
4					**INTERVEHICULAR CABLE**	
	●				Ensure that intervehicular cable is in good condition and connectors are correctly connected and secured in mounting clips.	
5					**HYDRAULIC AND HOSES**	
	●				Check under trailer and around fittings for signs of leaks.	Class III leaks are found.
6					**FRAME AND TOWING ATTACHMENTS**	
	●				a. Visually check frame for cracks or broken welds.	Frame is cracked or has a broken weld.
	●				b. Visually check for obviously loose, damaged, or missing lunette and safety chains.	Lunette or safety chains loose, damaged, or missing.
7					**BRAKES**	
	●				a. Couple trailer to towing vehicle (para 2-11). Check for air leaks.	Any signs of leakage are found.
	●				b. Check brakes for proper operation. Engage brakes and attempt to pull trailer forward.	Brakes fail to operate.
	●				c. Check handbrakes for proper operation. Adjust handbrake lever as required (para 3-7).	
8					**LIGHTS**	
	●				Connect intervehicular cable and check lights for proper operation. Check for damage to intervehicular cable and lights.	
9					**LEVELING JACKS, LANDING LEGS, AND SUPPORTS**	
		●			Check leveling jacks, landing legs, and supports for proper operation, secure mounting, and loose or missing parts.	Leveling jacks, landing legs and supports do not operate or have loose or missing parts.
10					**REFLECTORS**	
				●	Check condition of all reflectors.	
11					**SUSPENSION SYSTEM**	
				●	Visually inspect suspension system and mounting parts for obvious looseness and damage.	

Section III. OPERATION UNDER USUAL CONDITIONS

Paragraph Title	Page Number
Coupling Trailer to Towing Vehicle	2-7
General	2-7
Leveling the Trailer	2-10
Towing the Trailer	2-11
Uncoupling Trailer From Towing Vehicle	2-9

2-10. GENERAL.

a. This section contains instructions for safely operating the M514 and M390C Chassis Trailers under usual conditions. Unusual operating conditions are defined and described in Section IV of this chapter.

b. DO NOT attempt to operate the trailers without first becoming familiar with information found in Section II of Chapter 1 and Section 1 of this chapter.

c. Read and follow WARNINGs found in the Warning Summary at the front of this manual.

d. Perform all *Before* (B) PMCS before operating the trailer.

2-11. COUPLING TRAILER TO TOWING VEHICLE.

WARNING

- **All personnel must stand clear of towing vehicle and trailer during coupling operation. Failure to follow this warning may result in serious injury or death to personnel.**
- **Weight distribution on the M390C trailer requires that rear leveling jacks remain lowered until after trailer is coupled to the towing vehicle. If rear leveling jacks are raised before coupling is complete, trailer could tip, causing injury to personnel and damage to equipment.**

a. Raise leveling jacks and stow for traveling. If coupling an M390C, DO NOT raise rear leveling jacks.

b. Couple trailer to towing vehicle.

(1) **M514.**

(a) Position trailer lunette in towing vehicle pintle.

(b) Close and secure pintle latch.

(c) Hook safety chains to towing vehicle.

(2) **M390C.**

(a) Position trailer lunette in towing vehicle pintle.

(b) Lower retractable support assembly until weight of trailer is supported by towing vehicle pintle.

2-11. COUPLING TRAILER TO TOWING VEHICLE (Con't).

(c) Close and secure pintle latch.

(d) Hook safety chains to towing vehicle.

(e) Raise rear leveling jacks and stow for traveling.

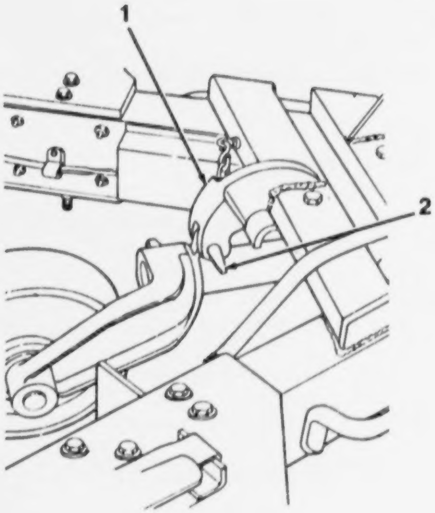
c. Raise retractable support assembly.

(1) **M514.**

(a) Pull out spring-loaded lockpin in upper end of retractable support assembly.

(b) Raise retractable support assembly until lockpin enters upper locking hole.

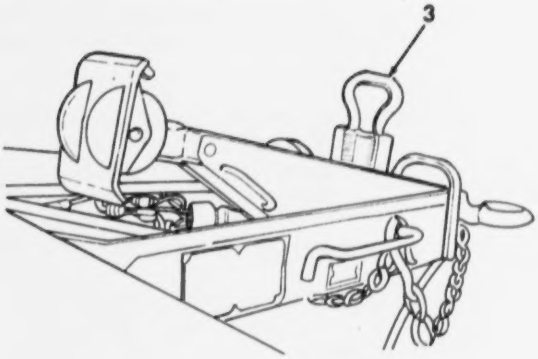
(c) Install gravity pin (2) through holes in retractable support assembly and frame clevis (1).



(2) **M390C.**

(a) Raise retractable support assembly wheels as high as possible with handcrank. Secure handcrank in stowage clip.

(b) Pull spring-loaded locking handle (3) toward rear of trailer and pull ground pad upward until ends of locking handle engage holes in top of lunette mounting bracket.



d. Connect intervehicular air hose to towing vehicle.

e. Connect intervehicular cable to towing vehicle.

f. Release handbrakes (para 2-3).

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2-12. UNCOUPLING TRAILER FROM TOWING VEHICLE.

WARNING

All personnel must stand clear of towing vehicle and trailer during uncoupling operation. Failure to follow this warning may result in serious injury or death to personnel.

a. Apply handbrakes (para 2-3).

b. Disconnect intervehicular cable from towing vehicle.

c. Disconnect intervehicular air hose from towing vehicle.

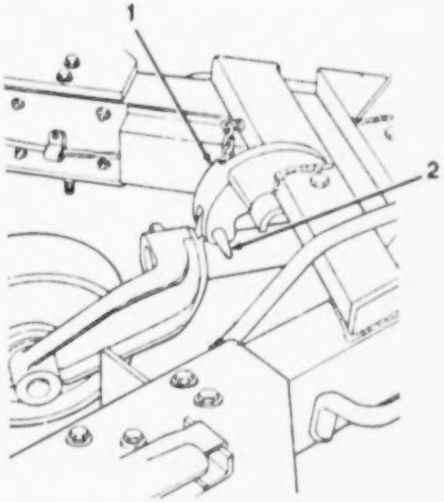
d. Lower retractable support assembly.

(1) **M514.**

(a) Remove gravity pin (2) from retractable support assembly and frame clevis (1).

(b) While supporting retractable support assembly, pull out spring-loaded lockpin as far as possible and allow retractable support assembly to swing down to lowered position.

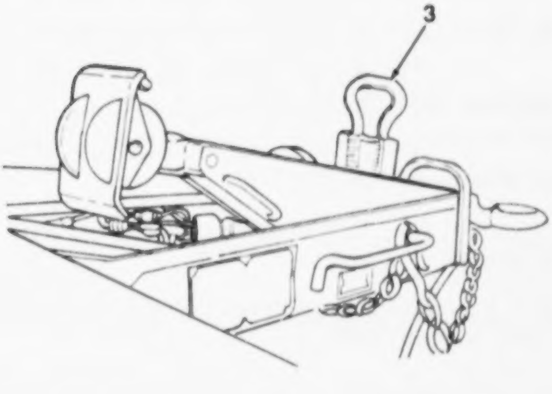
(c) Release lockpin to lock retractable support assembly in lowered position.



(2) **M390C.**

(a) While supporting ground pad, lower retractable support assembly to vertical position. Lock retractable support assembly by ensuring that ends of locking handle (3) engage in holes in top of lunette mounting bracket.

(b) Remove handcrank from stowage clip and lower wheels to ground.



e. Unhook safety chains from towing vehicle and stow on trailer.

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2-12. UNCOUPLING TRAILER FROM TOWING VEHICLE (Con't).

WARNING

Weight distribution on the M390C trailer requires that rear leveling jacks be lowered to support position before disconnecting trailer from towing vehicle. Failure to do so could cause trailer to tip, causing injury to personnel and damage to equipment.

f. If uncoupling an M390C, lower rear leveling jacks (para 2-13).

g. Raise pintle latch and unhook trailer lunette from towing vehicle pintle.

2-13. LEVELING THE TRAILER.

a. M514.

(1) Install leveling jack handcrank on one front leveling jack drive shaft.

(2) Turn handcrank clockwise until leveling jack shoe firmly contacts ground and desired height is obtained.

(3) Repeat steps 1 and 2 for second front leveling jack.

(4) Remove support pin from supports on each side of rear leveling jack. Allow supports to rest on trailer.

(5) Pull spring-loaded retractor out and rotate one-half turn to hold in released position.

(6) Move rear leveling jack to vertical position.

(7) Adjust leveling jack heights as required to level trailer.

CAUTION

Handbrakes must be released after emplacing trailer. Failure to release handbrakes may cause brakeshoes to freeze to brakedrums.

(8) Release handbrakes (para 2-3).

b. M390C.

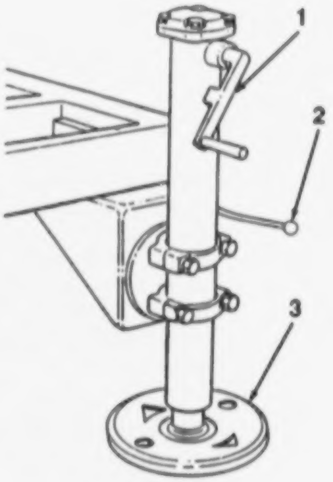
(1) Using control lever (2), unlock each double-swiveling leveling jack support assembly.

(2) Rotate support assembly until control lever (2) locks in place.

(3) Using control lever (2), swing leveling jack to vertical position.

(4) Turn handcrank (1) to lower shoe (3) to ground.

(5) Adjust leveling jack heights as required to level trailer.



TA504727

2-13. LEVELING THE TRAILER (Con't).

CAUTION

Handbrakes must be released after emplacing trailer. Failure to release handbrakes may cause brakeshoes to freeze to brakedrums.

(6) Release handbrakes (para 2-3).

c. Wheel Rotation After Emplacing Trailer.

CAUTION

To avoid wheel bearing damage, wheels on emplaced trailers must be rotated daily. If wheels are not rotated daily, wheel bearing grease settles to the bottom and wheel bearings will be damaged when trailer is put in motion.

(1) When trailers are up on leveling jacks, rotate wheels daily.

(2) A good way to help remember to rotate tires is to mark the top of the rim with a "1" and the bottom of the rim with a "2". Keep the "2" up on even-numbered days, and the "1" up on odd-numbered days.

2-14. TOWING THE TRAILER.

a. **Driving.**

(1) Keep in mind the overall length of the towing vehicle and trailer when passing other vehicles, turning, and backing.

(2) Always drive at safe speeds and note any irregularities.

b. **Turning.**

(1) When turning corners, remember that the trailer wheels turn inside the turning radius of the towing vehicle.

(2) When making a right turn at an intersection, drive the towing vehicle about halfway into the intersection and then cut sharply to the right. This will allow for the shorter turning radius of the trailer and will keep it off the curb.

c. **Braking.** During normal operations, the brakes of the towing vehicle and trailer are applied at the same time when the brake pedal is applied. Brake pedal pressure must be smooth and gradual.

d. **Parking.** Normally the towing vehicle brakes will provide adequate control of the trailer when stopped temporarily. When the towing vehicle and trailer are to be parked and left unattended, apply the towing vehicle and trailer handbrakes.

e. **Backing.**

(1) Adjust all towing vehicle mirrors before backing.

(2) When backing, the rear of the trailer will always move in a direction opposite to the front wheels of the towing vehicle.

(3) If the trailer is to be backed to the right, turn the steering wheel to the left. If the trailer is to be backed to the left, turn the steering wheel to the right.

(4) When the trailer has turned and backing in a straight line is required, turn the towing vehicle wheels in the direction that the trailer is moving. This will slowly bring the towing vehicle and trailer into a straight line.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

Paragraph Title	Page Number
Fording	2-13
General	2-12
Operation in Dusty or Sandy Areas	2-12
Operation in Extreme Cold or Snow	2-12
Operation in Extreme Heat	2-12
Operation in Rough or Rocky Terrain	2-13

2-15. GENERAL.

a. This section contains instructions for safely operating the M514 and M390C Chassis Trailers under unusual conditions. In addition to normal preventive maintenance and service, special care must be taken to keep the trailers mission-capable in extreme temperatures and humidity.

b. For information on special driving instructions under unusual conditions, refer to FM 21-305.

c. For information on operation in cold weather, refer to FM 9-207.

d. For information on operation in extreme heat, dusty, or sandy conditions, refer to FM 90-3.

2-16. OPERATION IN EXTREME COLD OR SNOW.

a. Operation in extreme cold causes lubricants to thicken or freeze and various trailer components to become hard and brittle, and therefore easily damaged or broken. The operator must be alert to the effects of extreme cold on the trailer.

b. When stopped or parked, clean ice, snow, or mud from underneath trailer and from hoses, lines, tubes, and electrical connections.

c. When operating in snow, ensure that the tires are inflated to 15 psi (103 kPa) (para 1-10).

d. Use caution when placing the trailer in motion.

(1) Thickened lubricants may cause failure of trailer components.

(2) Tires may be frozen to the ground. If tires were under-inflated, they may have flat spots.

(3) If brakeshoes are frozen to brakedrums, heat must be applied to brakedrums.

2-17. OPERATION IN EXTREME HEAT.

a. Do not park trailer in the sun for long periods of time as heat and sunlight will shorten the life of tires and lead to deterioration of painted surfaces.

b. Trailers, inactive for long periods in hot and humid weather, are subject to rapid rusting and accumulation of fungus. Frequently inspect, clean, and lubricate to prevent deterioration (Chapter 3, Section I).

2-18. OPERATION IN DUSTY OR SANDY AREAS.

Frequently inspect, clean, and lubricate to prevent damage to trailer components due to contamination from dust or sand (Chapter 3, Section I).

2-19. OPERATION IN ROUGH OR ROCKY TERRAIN.

a. Use care when moving trailer over rough or rocky ground to minimize shock to trailer.

b. Ensure that the tires are properly inflated (para 1-10).

2-20. FORDING.

a. **Deepwater Fording**. For information on deepwater fording, refer to TM 9-238.

b. **Shallow Water Fording**. Cover the trailer with tarpaulin to protect it from splashing water.

c. **After-fording Services**.

(1) If tactical situation permits, immediately perform the following services:

(a) Clean and dry all surfaces.

(b) Lubricate in accordance with lubrication instructions (Chapter 3, Section I).

(c) Notify unit maintenance that wheel bearings must be packed, brakedrums and hubs must be cleaned, and all unit lubrication performed.

(2) If the services listed above cannot be performed immediately, apply oil or preservative to badly splashed or submerged areas of the trailer. Notify unit maintenance so that complete disassembly, cleaning, and lubrication can be performed as soon as possible.

(3) Saltwater immersion greatly increases rusting and corrosion, especially on unpainted surfaces. Remove all traces of saltwater and salt deposits. Apply oil or preservative to badly splashed or submerged areas. Notify unit maintenance so that complete disassembly, cleaning, and lubrication can be performed as soon as possible.

CHAPTER 3
OPERATOR MAINTENANCE

Section I. LUBRICATION INSTRUCTIONS

Paragraph Title	Page Number
General	3-1
Lubrication Chart	3-3
Lubrication Instructions Under Unusual Conditions	3-2
Specific Lubrication Instructions	3-1

3-1. GENERAL.

NOTE

These instructions are MANDATORY.

a. The M514 and M390C Chassis Trailers must receive lubrication with approved lubricants at recommended intervals in order to be mission-ready at all times.

b. The KEY lists lubricants to be used in all temperature ranges and shows the interval.

c. The lubrication chart shows lubrication points, names items to be lubricated, the required lubricant, and recommended interval for lubrication. Any special lubricating instructions required for specific components are contained in the NOTES section of the chart.

d. Recommended intervals are based on normal conditions of operation, temperature, and humidity. When operating under extreme conditions, lubricants should always be changed more frequently. When in doubt, notify your supervisor.

3-2. SPECIFIC LUBRICATION INSTRUCTIONS.

a. Maintain a record of lubrication performed and report any problems noted during lubrication. Refer to DA Pam 738-750 for applicable forms and procedures.

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F–130°F (38°C–59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

b. Use dry cleaning solvent (Item 7, Appendix E) to clean grease fittings, lubrication points, and surrounding areas before lubricating.

c. When lubricating at a grease fitting, apply enough grease to purge old grease from the lubricated area. When old grease oozes from the grease fitting, purging and lubrication are adequate.

3-2. SPECIFIC LUBRICATION INSTRUCTIONS (Con't).

WARNING

Wipe excess lubricant from the area of brakeshoe linings to avoid grease soaking the linings. If brakeshoe linings become soaked, have unit maintenance replace them. Failure to follow this warning may cause brakes to malfunction, resulting in serious injury or death to personnel.

d. After lubrication, wipe off excess oil or grease to prevent accumulation of foreign matter.

3-3. LUBRICATION INSTRUCTIONS UNDER UNUSUAL CONDITIONS.

a. Lubricate more frequently to compensate for abnormal or extreme conditions such as high or low temperatures, prolonged periods of high-speed operations, continued operation in sand or dust, immersion in water, or exposure to moisture. Any one of these conditions may cause contamination and quickly destroy protective qualities of lubricants.

b. Intervals may be extended during inactive periods commensurate with adequate preservation.

c. For lubrication instructions during continued operation below 0°F (-18°C), refer to FM 9-207.

d. Refer to TM 9-2380 for lubrication instructions before and after fording.

e. After operation in muddy, sandy, or dusty conditions, clean and inspect all points of lubrication for fouled lubricants. Change lubricants as required.

LUBRICATION CHART

TRAILER, CHASSIS: 1-TON, 2-WHEEL
M514 (NSN 2330-00-542-5733)

AND

TRAILER, CHASSIS: 2-TON, 2-WHEEL
M390C (NSN 2330-00-542-3491)

Intervals (on-condition or hard time) and related man-hour times are based on normal operation. The man-hour time specified is the time you need to do all services prescribed for a particular interval. Decrease the intervals if your lubricants are contaminated, or if you are operating equipment under adverse conditions, including longer-than-usual operating hours. The intervals may be extended during periods of low activity. If extended, adequate preservation precautions must be taken.

Dotted leader lines indicate lubrication is required on both sides of the equipment.

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F–130°F (38°C–59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

Clean all fittings and area around lubrication points with dry cleaning solvent P-D-680 (Item 7, Appendix E) or equivalent before lubricating equipment. After lubrication, wipe off excess oil or grease to prevent accumulation of foreign matter.

The lowest level of maintenance authorized to lubricate a point is indicated in parentheses by use of the following: (C) Operator/Crew; or (O) Unit Maintenance.

M514

LUBRICANT • INTERVAL

Wheel Bearings (Note 2) (O) GAA A

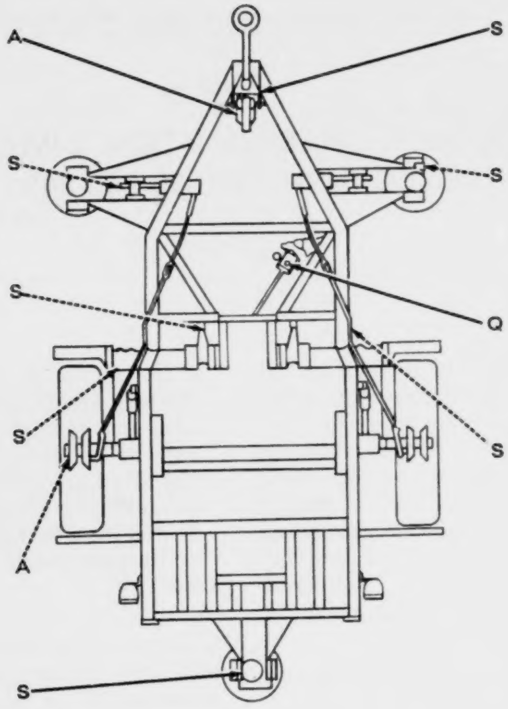
Handbrake Lever (Note 1) (C) OE/HDO S

Torsion Spring Support Turnbuckle Pins OE/HDO S

Suspension Supports (4 Fittings) (O) GAA S

Wheel Bearings (Note 2) (O) GAA A

Leveling Jack Gearbox (1 Fitting) (Note 3) (O) GAA S



INTERVAL • LUBRICANT

S GAA Retractable Support Assembly (1 Fitting) (O)

S GAA Leveling Jack Gearbox (1 Fitting) (Note 3) (O)

Q BFS Master Cylinder (Note 4) (O)

S GAA Handbrake Cable (Note 1) (C)

TOTAL MAN-HOURS*

INTERVAL	MAN-HOUR
Q	0.1
S	0.6
A	1.5

* The man-hours time specified is the time you need to do all services prescribed for a particular interval.

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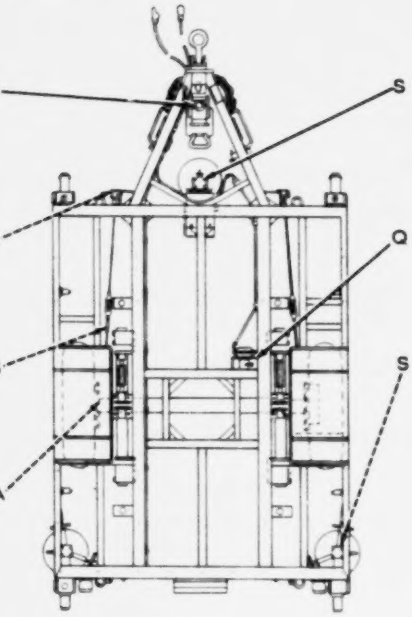
M390C

LUBRICANT • INTERVAL

INTERVAL • LUBRICANT



Retractable Support Assembly (2 Fittings) (O) GAA S

Handbrake Lever (Note 1) (C) OE/HDO S

Handbrake Flexible Control Link (O) GAA S

Wheel Bearings (Note 2) (O) GAA A

S GAA **Leveling Jack Gear Housing** (2 Fittings) (Note 3) (O)

Q BFS **Master Cylinder** (Note 4) (O)

S GAA **Leveling Jack Gear Housing** (2 Fittings) (Note 3) (O)

TOTAL MAN-HOURS*

INTERVAL	MAN-HOUR
Q	0.1
S	0.6
A	1.5

* The man-hours time specified is the time you need to do all services prescribed for a particular interval.

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— KEY —

LUBRICANTS	EXPECTED TEMPERATURES			FOR ARCTIC OPERATIONS, REFER TO FM 9-207	INTERVALS
	ABOVE +32°F (ABOVE 0°C)	+40°F to −10°F (+4°C to −23°C)	+40°F to −65°F (−18°C to −54°C)		
OE/HDO (MIL-L-2104) Lubricating Oil, Internal Combustion Engine, Tactical Service	OE/HDO-30	OE/HDO-10	OEA		Q - Quarterly S - Semiannual A - Annual
OEA (MIL-L-46167) Lubricating Oil, Internal Combustion, Arctic			OEA		
BFS (MIL-B-46176) Brake Fluid Silicone, Automotive	All Temperatures				
GAA (MIL-G-10924) Grease, Automotive and Artillery	All Temperatures				

NOTES:

1. **OIL CAN POINTS.**

M514. Quarterly, or at interval specified, lubricate handbrake assembly and linkage, brake cable turnbuckles, receptacle cover hinge, traveling lockpins, and toolbox locks and hinges.

M390C. Quarterly, or at interval specified, lubricate handbrake linkage, leveling jack adjusting nut and swivel housing mating surfaces, staybars, foot pad pins, inner tubes, retractable support inner tube, spring-loaded handle, wheel assembly, and hinges and brackets.

2. **WHEEL BEARINGS.** Annually, remove, clean, inspect, and pack with GAA (TM 9-214).

3. **LEVELING JACKS.** After lubrication, operate leveling jack legs up and down to distribute the GAA.

4. **MASTER CYLINDER.** Fill to within ½ in. (13 mm) from top.

5. **SPRINGS (M390C).** DO NOT lubricate.

Section II. OPERATOR/CREW TROUBLESHOOTING PROCEDURES

Paragraph Title	Page Number
General	3-7
Operator/Crew Troubleshooting, Table 3-1	3-8
Troubleshooting Symptom Index	3-8

3-4. GENERAL.

a. This section provides information for identifying and correcting malfunctions which may develop while operating your trailer.

b. The Troubleshooting Symptom Index in paragraph 3-5 lists common malfunctions which may occur, and refers you to the proper page in Table 3-1 for a troubleshooting procedure.

c. If you are unsure of the location of an item mentioned in troubleshooting, refer to paragraph 1-7 or to the maintenance task where the item is replaced.

d. Before performing troubleshooting, read and follow all safety instructions found in the Warning Summary at the front of this manual.

e. This section cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed, or is not corrected by the listed corrective actions, notify your supervisor.

f. When troubleshooting a malfunction:

(1) Locate the symptom or symptoms in paragraph 3-5 that best describe the malfunction.

(2) Turn to the page in Table 3-1 where the troubleshooting procedures for the malfunction in question are described. Headings at the top of each page show how each troubleshooting procedure is organized: MALFUNCTION, TEST OR INSPECTION (in step number order), and CORRECTIVE ACTION.

(3) Perform each step in the order listed until the malfunction is corrected. DO NOT perform any maintenance task unless the troubleshooting procedure tells you to do so.

g. The columns in Table 3-1 are defined as follows:

(1) **MALFUNCTION.** A visual or operational indication that something is wrong with the trailer.

(2) **TEST OR INSPECTION.** A procedure to isolate the problem in a component or system.

(3) **CORRECTIVE ACTION.** A procedure to correct the problem.

3-5. TROUBLESHOOTING SYMPTOM INDEX.

	Troubleshooting Procedure Page
BRAKES	
Brakes Drag (One or Both Brakes Running Hot)	3-10
Brakes Will Not Release	3-10
Handbrakes Will Not Hold Trailer	3-10
No Brakes or Weak Brakes	3-10
ELECTRICAL SYSTEM	
Dim or Flickering Lamps	3-8
One or More Lamps (But Not All) Fail to Light	3-9
Taillights Will Not Light	3-9
LEVELING JACKS	
Handcrank Will Not Turn or Will Not Turn Freely	3-12
RETRACTABLE SUPPORT ASSEMBLY (M390C)	
Handcrank Will Not Turn or Will Not Turn Freely	3-11
Support Will Not Swivel or Turn Freely in Lunette Mounting Bracket (When Steering)	3-11
RETRACTABLE SUPPORT ASSEMBLY (M514)	
Caster Does Not Move Easily	3-11
TIRES	
Abnormal Tire Wear	3-11

Table 3-1. Operator/Crew Troubleshooting.

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

ELECTRICAL SYSTEM

1. DIM OR FLICKERING LAMPS.

Step 1. Check for loose, dirty, or corroded terminals at taillight connectors.

Clean dirty or corroded terminals (para 3-6).

If terminals are clean and tight, proceed to step 2.

Step 2. Check taillight for obvious defects or damage.

If light is defective or damaged, notify unit maintenance.

If light is not defective or damaged, proceed to step 3.

Table 3-1. Operator/Crew Troubleshooting (Con't).

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

Step 3. Check intervehicular cable for dirty or corroded pins.

Clean dirty or corroded pins (para 3-6).

If pins are not dirty or corroded, proceed to step 4.

Step 4. Check chassis wiring harness for broken wires or insulation and other damage.

Notify unit maintenance.

2. ONE OR MORE LAMPS (BUT NOT ALL) WILL NOT LIGHT.

Step 1. Check light assembly for defects or damage.

If light assembly is defective or damaged, notify unit maintenance.

If light assembly is not defective or damaged, proceed to step 2.

Step 2. Check chassis wiring harness and taillight connectors for proper connection.

If chassis wiring harness and taillight connectors are not properly connected, disconnect and connect properly. If chassis wiring harness and taillight connectors are properly connected, proceed to step 3.

Step 3. Check chassis wiring harness for broken wires or insulation and other damage.

Notify unit maintenance.

3. TAILLIGHTS WILL NOT LIGHT.

Step 1. Check setting and operation of towing vehicle light switches. Refer to towing vehicle technical manual.

If towing vehicle lights do not light, notify unit maintenance.

If towing vehicle lights do light, proceed to step 2.

Step 2. Check intervehicular cable.

If intervehicular cable is not properly connected, disconnect from towing vehicle receptacle and connect properly.

If intervehicular cable is properly connected, proceed to step 3.

Step 3. Check intervehicular cable for dirty, corroded, or damaged pins.

If intervehicular cable pins are dirty or corroded, clean pins (para 3-6).

If intervehicular cable pins are damaged, notify unit maintenance.

If intervehicular cable pins are not dirty, corroded, or damaged, proceed to step 4.

Step 4. Check chassis wiring harness for broken wires or insulation and other damage.

Notify unit maintenance.

Table 3-1. Operator/Crew Troubleshooting (Con't).

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

BRAKES

4. BRAKES DRAG (ONE OR BOTH BRAKES RUNNING HOT).

Check to see if handbrakes are applied (para 2-3).

Release handbrakes if applied (para 2-3).

If handbrakes are not applied, notify unit maintenance.

5. BRAKES WILL NOT RELEASE.

Step 1. Check connection of intervehicular air hose to trailer.

If intervehicular air hose is not connected properly, shut off towing vehicle air supply. Disconnect intervehicular air hose and connect properly.

If intervehicular air hose is connected properly, proceed to step 2.

Step 2. Check if brake valve in towing vehicle is in applied position. Refer to towing vehicle technical manual.

If brake valve is applied, release.

If brake valve is not applied, proceed to step 3.

Step 3. Check for restrictions or kinks in intervehicular air hose.

Remove restrictions or kinks.

If restrictions or kinks cannot be removed, notify unit maintenance.

6. HANDBRAKES WILL NOT HOLD TRAILER.

Check handbrake cable for too much slack.

Adjust handbrake lever (para 3-7).

If handbrake lever still does not hold trailer, notify unit maintenance.

7. NO BRAKES OR WEAK BRAKES.

Step 1. Check for closed shut-off valve on towing vehicle. Refer to towing vehicle technical manual.

If shut-off valve is closed, open.

If shut-off valve is open, proceed to step 2.

Step 2. Check that intervehicular air hose is properly connected to towing vehicle.

Shut off towing vehicle air supply, disconnect intervehicular air hose, and connect properly.

If intervehicular air hose is properly connected and malfunction still exists, notify unit maintenance.

Table 3-1. Operator/Crew Troubleshooting (Con't).

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

TIRES

8. ABNORMAL TIRE WEAR.

Step 1. Check tires for correct pressure (para 1-10).

Inflate tires to correct pressure.

If tire pressure is correct, proceed to step 2.

Step 2. Check for loose wheel hub nuts.

Tighten loose wheel hub nuts. Notify unit maintenance to apply proper torque.

Step 3. Check for a loose, cracked, bent, or broken rim or wheel.

Notify unit maintenance.

RETRACTABLE SUPPORT ASSEMBLY (M514)

9. CASTER DOES NOT MOVE EASILY.

Check for insufficient lubrication.

If lubrication is insufficient, notify unit maintenance.

RETRACTABLE SUPPORT ASSEMBLY (M390C)

10. HANDCRANK WILL NOT TURN OR WILL NOT TURN FREELY.

Step 1. Check for insufficient lubrication.

If lubrication is insufficient, notify unit maintenance.

Step 2. Check for indication of damaged parts (such as grinding sound in leg).

If damage is indicated, notify unit maintenance.

11. SUPPORT WILL NOT SWIVEL OR TURN FREELY IN LUNETTE MOUNTING BRACKET (WHEN STEERING).

Step 1. Check for insufficient lubrication.

If lubrication is insufficient, notify unit maintenance.

Step 2. Check for bent bracket and spindle assembly.

If bracket and spindle assembly is bent, notify unit maintenance.

Table 3-1. Operator/Crew Troubleshooting (Con't).

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

LEVELING JACKS

12. HANDCRANK WILL NOT TURN OR WILL NOT TURN FREELY.

Step 1. Check for insufficient lubrication.

If lubrication is insufficient, notify unit maintenance.

Step 2. Check for indication of damaged parts (such as grinding sound).

If damage is indicated, notify unit maintenance.

Section III. MAINTENANCE PROCEDURES

Paragraph Title	Page Number
Electrical Connector Cleaning	3-12
Handbrake Lever Adjustment	3-12

3-6. ELECTRICAL CONNECTOR CLEANING.

a. Disconnect electrical connector.

b. Remove any buildup of dirt or grease with a soft rag (Item 14, Appendix E).

c. Connect electrical connector and check operation of lights. If cleaning does not correct malfunction, notify unit maintenance.

3-7. HANDBRAKE LEVER ADJUSTMENT.

a. Turn adjusting knob on handbrake lever clockwise to increase braking action.

b. Turn adjusting knob on handbrake lever counterclockwise to decrease braking action.

c. If braking action is still not adequate to hold trailer, notify unit maintenance to adjust handbrake cable.

CHAPTER 4
UNIT MAINTENANCE

Section I. REPAIR PARTS; SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

Paragraph Title	Page Number
Common Tools and Equipment	4-1
Repair Parts	4-1
Special Tools; Test, Measurement, and Diagnostic Equipment (TMDE); and Support Equipment	4-1

4-1. COMMON TOOLS AND EQUIPMENT.

For authorized common tools and equipment, refer to the *Modified Table of Organization and Equipment (MTOE)* applicable to your unit.

4-2. SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT.

Special tools, TMDE, and support equipment required to maintain the trailer are listed and illustrated in Appendix F of this manual.

4-3. REPAIR PARTS.

Repair parts are listed and illustrated in Appendix F of this manual.

Section II. SERVICE UPON RECEIPT

Paragraph Title	Page Number
General	4-2
Preliminary Inspections and Services	4-2

4-4. GENERAL.

When a new, used, or reconditioned M514 or M390C Chassis Trailer is received, determine whether it has been properly prepared for service and is in condition to perform its mission. Perform the preliminary inspections and services listed in paragraph 4-5.

4-5. PRELIMINARY INSPECTIONS AND SERVICES.

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F–130°F (38°C–59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

a. Use dry cleaning solvent (Item 7, Appendix E) and rags (Item 14, Appendix E) to clean all exterior surfaces coated with rust preventive compounds. Refer to DD Form 1397 and follow all instructions carefully.

b. Remove any protective materials used on the trailer during shipment. Unpack and properly stow all Basic Issue Items (BII).

c. Perform *Quarterly* (Q) PMCS as shown in Table 4-1. Correct any deficiency if authorized by the Maintenance Allocation Chart (MAC) in Appendix B. If not authorized, notify your supervisor.

d. Make a complete visual inspection of the trailer to ensure that all accessories and required publications are present.

e. Lubricate all lubrication points, regardless of interval (Chapter 3, Section I).

f. Schedule the next PMCS on DD Form 314.

g. Make a final, complete inspection of the trailer.

h. Perform a break-in road test of 25 mi (40 km) at a maximum speed of 50 mi/h (80 km/h).

Section III. UNIT PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

Paragraph Title	Page Number
General	4-3
Unit Preventive Maintenance Checks and Services (PMCS), Table 4-1	4-4
PMCS Procedures	4-3

4-6. GENERAL.

a. Preventive maintenance is detecting/correcting problems before they happen or fixing minor problems before they become major problems.

b. Table 4-1 contains a list of preventive maintenance checks and services to be performed by organizational maintenance personnel. Attention to these checks and services will increase the useful life of the equipment.

c. Every possible problem cannot be covered in the PMCS. Be alert for anything that might cause a problem. If anything does look wrong, and you can't fix it, write it on a DA Form 2404 and report it to your supervisor. Be sure to record any corrective action taken.

4-7. PMCS PROCEDURES.

a. While performing PMCS, always keep in mind all WARNINGs and CAUTIONs.

b. Perform the checks and services at the intervals shown in Table 4-1.

(1) Perform *Quarterly* (Q) PMCS once each three months.

(2) Perform *Semiannual* (S) PMCS twice a year, or once each six months.

(3) Perform *Annual* (A) PMCS once each year.

c. Always do your checks and services in the same order so it gets to be a habit. Once you've had some practice, you'll spot anything wrong in a hurry.

d. If the trailer doesn't work properly and you can't see what is wrong, refer to Section IV of this chapter for troubleshooting instructions.

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F–130°F (38°C–59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

e. Make cleanup a part of your preventive maintenance. Dirt, grease, oil, and debris may cover up a serious problem. Wipe off excess grease and spilled oil. Use dry cleaning solvent (Item 7, Appendix E) to clean metal surfaces. Use soap (Item 6, Appendix E) and water when you clean rubber or plastic material.

4-7. PMCS PROCEDURES (Con't).

f. Watch for and correct anything that might cause a problem with the equipment. Some things you should watch for are:

(1) Bolts, nuts, and screws that are loose, missing, bent, or broken.

(2) Welds that are bad or broken.

(3) Electric wires and connectors that are bare, broken, or loose.

(4) Air and hydraulic hoses and lines that leak or show signs of damage or wear.

g. For a classification of fluid leakage, refer to paragraph 2-9.

h. The columns in Table 4-1 are defined as follows:

(1) **Item No.** The number in this column shall be used as a source of item numbers for the "TM ITEM NO." column on DA Form 2404 in recording results of PMCS.

(2) **Interval.** Tells you when to do a certain check or service.

(3) **Item To Be Inspected.** Lists system and common name of items that are to be inspected.

(4) **Procedures.** Tells you how to do the required checks and services.

Table 4-1. Unit Preventive Maintenance Checks and Services (PMCS).

Q - Quarterly S - Semiannual A - Annual

ITEM NO.	INTERVAL			ITEM TO BE INSPECTED	PROCEDURES
	Q	S	A		
					NOTE **Perform operator/crew PMCS prior to or in conjunction with unit PMCS.**
1				FRAME AND TOWING ATTACHMENTS	
	●				Inspect frame, tool boxes, deck plates, stepladder, folding steps, lunette, and leveling jacks for evidence of damage (breaks, cracks, bent members, or broken welds).
2				BRAKES	
	●				a. Check fluid level in master cylinder. Fluid level should be within ½ in. (13 mm) from the filler opening (Chapter 3, Section I).
	●				b. Adjust handbrake cable as required (para 4-21 or 4-22).
	●				c. Inspect hoses and fittings for leakage, security, and condition.
	●				d. Remove plug from bottom of air filter and allow all fluid to drain.
		●			e. Remove and clean air filter element. Replace element if unserviceable (para 4-36).

Table 4-1. Unit Preventive Maintenance Checks and Services (PMCS) (Con't).

Q - Quarterly S - Semiannual A - Annual

ITEM NO.	INTERVAL			ITEM TO BE INSPECTED	PROCEDURES
	Q	S	A		
2				BRAKES (Con't)	
			●		f. Clean, inspect, and replace brake internal components as required (para 4-27 or 4-28).
			●		g. Test airbrake chamber push rod travel (para 4-23). Adjust brakes as required (para 4-24 or 4-25).
3				WHEEL BEARINGS	
			●		Remove wheels, hubs, and wheel bearings. Clean, inspect, and pack wheel bearings. Replace wheel bearings as required (para 4-41 or 4-42).
4				WHEELS	
		●			Tighten wheel stud nuts to 450-500 lb.-ft. (610-678 N•m).
5				SUSPENSION SYSTEM	
	●				Check torsion bars or springs, shock absorbers, and radius rods for damage. Tighten all assemblies and mounting hardware.
6				ELECTRICAL SYSTEM	
	●				a. Check chassis wiring harness, clips, shells, grommets, and junction box for damage.
	●				b. Check intervehicular cable for damage.
	●				c. Replace/repair inoperative/damaged lights or components.

Section IV. UNIT TROUBLESHOOTING PROCEDURES

Paragraph Title	Page Number
General	4-6
Organizational Troubleshooting, Table 4-2	4-8
Troubleshooting Symptom Index	4-7

4-8. GENERAL.

a. This section contains troubleshooting information and tests for locating and correcting some of the troubles that may develop in the trailers.

b. The Troubleshooting Symptom Index in paragraph 4-9 lists common malfunctions which may occur and refers you to the proper page in Table 4-2 for a troubleshooting procedure.

c. This manual cannot list all the malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction in not listed, or is not corrected by the listed corrective actions, notify direct support maintenance.

d. When troubleshooting a malfunction:

(1) Question the operator to obtain any information that might help determine the cause of the problem. Before continuing, ensure that all applicable operator troubleshooting was performed.

(2) Locate the symptom or symptoms in paragraph 4-9 that best describe the malfunction. If the appropriate symptom is not listed, notify direct support maintenance.

(3) Turn to the page in Table 4-2 where the troubleshooting procedures for the malfunction in question are described. Headings at the top of each page show how each troubleshooting procedure is organized: MALFUNCTION, TEST OR INSPECTION (in step number order), and CORRECTIVE ACTION.

(4) Perform each step in the order listed until the malfunction is corrected. DO NOT perform any maintenance task unless the troubleshooting procedure tells you to do so.

4-9. TROUBLESHOOTING SYMPTOM INDEX.

	Troubleshooting Procedure Page
BRAKES	
Brakes:	
Drag (One or Both Brakes Running Hot)	4-10
Grab	4-10
No Brakes	4-11
Slow Application or Slow Release	4-11
Weak	4-11
Will Not Release	4-10
Handbrakes Will Not Hold Trailer	4-11
ELECTRICAL SYSTEM	
All Lamps Do Not Light	4-8
Dim or Flickering Lamps	4-8
One or More Lamps (But Not All) Fail To Light	4-9
LEVELING JACKS	
Handcrank Will Not Turn	4-13
RETRACTABLE SUPPORT ASSEMBLIES	
Handcrank Will Not Turn	4-13
Will Not Swivel or Turn Freely	4-13
SUSPENSION SYSTEM	
Improper Spring Action	4-12
Trailer Pulls to One Side	4-12
TIRES	
Abnormal Wear	4-12

Table 4-2. Unit Troubleshooting.

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

ELECTRICAL SYSTEM

1. ALL LAMPS DO NOT LIGHT.

WARNING

When troubleshooting an electrical malfunction, ALWAYS disconnect intervehicular cable from towing vehicle. Failure to do so may result in injury or death due to electric shock.

NOTE

Refer to paragraph 4-17 to determine routing of electrical wires and location of electrical components.

Step 1. Check operation of light switch in towing vehicle.

Replace defective light switch. Refer to towing vehicle technical manual.

Step 2. Check circuit breakers and fuses in towing vehicle.

Reset circuit breakers and replace bad fuses. Refer to towing vehicle technical manual.

Step 3. Check intervehicular cable and chassis wiring harness for proper connections.

Connect intervehicular cable and chassis wiring harness properly.

Step 4. Check chassis wiring harness for broken insulation or contacts causing short circuits.

Repair or replace chassis wiring harness (para 4-13 or 4-14).

Step 5. Replace intervehicular cable (para 4-15 or 4-16).

2. DIM OR FLICKERING LAMPS.

WARNING

When troubleshooting an electrical malfunction, ALWAYS disconnect intervehicular cable from towing vehicle. Failure to do so may result in injury or death due to electric shock.

NOTE

Refer to paragraph 4-17 to determine routing of electrical wires and location of electrical components.

Step 1. Check intervehicular cable, chassis wiring harness, and lights for loose, dirty, or corroded contacts.

Clean dirty contacts (para 3-6). Connect all cables.

Replace intervehicular cable (para 4-15 or 4-16), chassis wiring harness (para 4-13 or 4-14), or affected lights (para 4-10, 4-11, or 4-12).

Table 4-2. Unit Troubleshooting (Con't).

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

Step 2. Check intervehicular cable for proper grounding.

Remove screw and washer securing ground terminal to connector clip assembly. Clean ground terminal and surface of connector clip assembly. Using screw and washer, connect ground terminal securely to connector clip assembly.

Step 3. Check lights for proper grounding.

Remove lights (para 4-10, 4-11, or 4-12). Clean screws and mounting brackets. Install lights and tighten screws securely.

Step 4. Check lamps.

Replace lamps as required (para 4-10, 4-11, or 4-12).

3. ONE OR MORE LAMPS (BUT NOT ALL) FAIL TO LIGHT.

WARNING

When troubleshooting an electrical malfunction, ALWAYS disconnect intervehicular cable from towing vehicle. Failure to do so may result in injury or death due to electric shock.

NOTE

Refer to paragraph 4-17 to determine routing of electrical wires and location of electrical components.

Step 1. Check lamps.

Replace lamps as required (para 4-10, 4-11, or 4-12).

Step 2. Check continuity between edge of lamp socket and light assembly housing, and center post of lamp socket and related light assembly plug connector.

If no continuity exists, replace light assembly (para 4-10, 4-11, or 4-12).

Step 3. Check continuity between edge of lamp socket and trailer frame.

If no continuity exists, remove and clean mating surfaces.

Step 4. Disconnect chassis wiring harness from intervehicular cable. While assistant operates lights, check voltage in affected lines of intervehicular cable.

If 24 volts are present in all affected lines of intervehicular cable, replace chassis wiring harness (para 4-13 or 4-14).

Step 5. Disconnect intervehicular cable from towing vehicle receptacle. While assistant operates lights, check voltage at towing vehicle receptacle.

If voltage is present at all sockets of towing vehicle receptacle, replace intervehicular cable (para 4-15 or 4-16).

If voltage is not present at all sockets of towing vehicle receptacle, troubleshoot towing vehicle electrical system. Refer to towing vehicle technical manual.

Table 4-2. Unit Troubleshooting (Con't).

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

BRAKES

4. BRAKES DRAG (ONE OR BOTH BRAKES RUNNING HOT).

Step 1. Check brake adjustment.

Adjust brakes (para 4-24 or 4-25).

Step 2. Check for weak or broken brakeshoe return spring.

Replace brakeshoe return spring (para 4-27 or 4-28).

5. BRAKES GRAB.

Step 1. Check brake adjustment.

Adjust brakes (para 4-24 or 4-25).

Step 2. Check for grease on brakeshoe linings.

Replace brakeshoes (para 4-27 or 4-28). Replace wheel oil seal if leaks are evident (para 4-41 or 4-42).

Step 3. Check for loose wheel bearings.

Adjust wheel bearings (para 4-41 or 4-42). If wheel bearings cannot be properly adjusted, replace.

Step 4. Check for cracked, scored, or deformed brakedrum.

Replace brakedrum (para 4-41 or 4-42).

Step 5. Check for worn or loose brakeshoe linings.

Replace brakeshoes (para 4-27 or 4-28).

Step 6. Check for moisture in air filter.

Remove plug from bottom of air filter and allow all fluid to drain. Replace air filter as required (para 4-34 or 4-35).

6. BRAKES WILL NOT RELEASE.

Step 1. Check for restriction in service air line or intervehicular air hose.

Remove restriction or replace service air line or intervehicular air hose (para 4-34 or 4-35).

Step 2. Check for weak or broken brakeshoe return spring.

Replace brakeshoe return spring (para 4-27 or 4-28).

Table 4-2. Unit Troubleshooting (Con't).

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

---

7. HANDBRAKES WILL NOT HOLD TRAILER.

Check adjustment of handbrake cable and linkage (para 4-21 or 4-22).

Adjust handbrake cable and linkage (para 4-21 or 4-22).

8. NO BRAKES OR WEAK BRAKES.

Step 1. Check for excessive airbrake chamber push rod travel (para 4-23).

Adjust brakes (para 4-24 or 4-25).

Step 2. Check for clogged air filter.

Clean or replace air filter (para 4-34, 4-35, or 4-36).

Step 3. Check for air in hydraulic brake lines.

Bleed brakes (para 4-26).

Step 4. Check for leaks in hydraulic brake system.

Tighten loose connections or replace leaking lines or tubes (para 4-32 or 4-33).

Step 5. Check for grease on brakeshoe linings.

Replace brakeshoes (para 4-27 or 4-28). Replace wheel oil seal if leaks are evident (para 4-41 or 4-42).

Step 6. Check for worn or damaged brakeshoe linings.

Adjust brakes (para 4-24 or 4-25) or replace brakeshoes (para 4-27 or 4-28).

9. SLOW APPLICATION OR SLOW RELEASE OF BRAKES.

Step 1. Check air pressure gage in towing vehicle for low air pressure.

Perform air system lines and hose leakage test (para 4-23). Replace defective components as required (para 4-34 or 4-35).

Step 2. Check for clogged air filter.

Clean or replace air filter (para 4-34, 4-35, or 4-36).

Step 3. Check for weak or broken brakeshoe return spring.

Replace brakeshoe return spring (para 4-27 or 4-28).

Table 4-2. Unit Troubleshooting (Con't).

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

TIRES

10. ABNORMAL TIRE WEAR.

Step 1. Check for improper wheel bearing adjustment.

Adjust wheel bearings (para 4-41 or 4-42).

Step 2. Check for bent rim or wheel.

Replace rim or wheel as required (para 4-40).

Step 3. Check suspension system for a bent or broken suspension arm (M514) or axle assembly (M390C).

Replace suspension arm (M514) or axle assembly (M390C) as required (para 4-38 or 4-18).

Step 4. Check for bent or broken U-bolts, spring leaves, spring center bolt, or spring clips (M390C).

Replace spring (para 4-56).

SUSPENSION SYSTEM

11. IMPROPER SPRING ACTION.

Step 1. Check for loose suspension mounting (M514).

Tighten suspension mounting (para 4-38).

Step 2. Check for insufficient lubrication (M514).

Lubricate suspension (Chapter 3, Section I).

Step 3. Check for loose U-bolts (M390C).

Tighten U-bolts.

Step 4. Check for broken spring leaves, spring center bolt, or clips (M390C).

Replace spring (para 4-56).

12. TRAILER PULLS TO ONE SIDE.

Step 1. Check for improper wheel bearing adjustment.

Adjust wheel bearings (para 4-41 or 4-42).

Table 4-2. Unit Troubleshooting (Con't).

MALFUNCTION
TEST OR INSPECTION
CORRECTIVE ACTION

Step 2. Check for bent suspension arm (M514).

Replace suspension arm (para 4-38).

Step 3. Check for bent or broken axle assembly (M390C).

Replace axle assembly (para 4-18).

RETRACTABLE SUPPORT ASSEMBLIES

13. RETRACTABLE SUPPORT ASSEMBLY HANDCRANK WILL NOT TURN.

Step 1. Check for insufficient lubrication.

Lubricate retractable support assembly (Chapter 3, Section I).

Step 2. Check for damaged gears or bearings.

Remove and repair retractable support assembly (M514) (para 4-49).

Remove retractable support assembly (M390C) (para 4-50). Refer repair to direct support maintenance.

14. RETRACTABLE SUPPORT ASSEMBLY WILL NOT SWIVEL OR TURN FREELY.

Step 1. Check for insufficient lubrication.

Lubricate retractable support assembly (Chapter 3, Section I).

Step 2. Check retractable support assembly and frame for damage.

Replace retractable support assembly (para 4-49 or 4-50).

If frame is damaged, notify direct support maintenance.

LEVELING JACKS

15. HANDCRANK WILL NOT TURN.

Step 1. Check for insufficient lubrication.

Lubricate leveling jack (Chapter 3, Section I).

Step 2. Check for damage to leveling jack.

Remove and repair leveling jack (M514) (para 4-51). Refer repair of leveling jack gearbox (M514) to direct support maintenance.

Replace leveling jack (M390C) (para 4-55). Refer repair of leveling jack (M390C) to direct support maintenance.

Section V. ELECTRICAL SYSTEM MAINTENANCE

Paragraph Title	Page Number
Blackout Stoplight Maintenance	4-14
Chassis Wiring Harness Maintenance (M390C)	4-22
Chassis Wiring Harness Maintenance (M514)	4-20
Composite Light Assembly Maintenance	4-18
Intervehicular Cable Maintenance (M390C)	4-26
Intervehicular Cable Maintenance (M514)	4-24
Taillight Stoplight Maintenance	4-16
Wiring Diagrams	4-28

4-10. BLACKOUT STOPLIGHT MAINTENANCE.

This Task Covers:

a. Repair
b. Removal
c. Installation

Initial Setup:

Equipment Conditions:

- Intervehicular cable disconnected from towing vehicle (para 2-12).

Tools/Test Equipment:

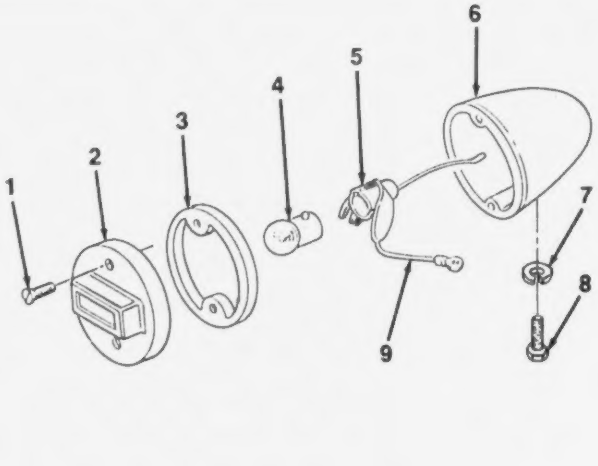
- General mechanic's tool kit

Materials/Parts:

- One lockwasher

a. REPAIR

1. Remove two screws (1), and lens retainer (2) from housing (6). Inspect gasket (3) for damage. If damaged, remove and discard.
2. Remove lamp (4) from socket (5).
3. Install lamp (4) in socket (5).
4. If removed, install new gasket (3) in lens retainer (2).
5. Install lens retainer (2) on housing (6) with two screws (1).



TA504984

4-10. BLACKOUT STOPLIGHT MAINTENANCE (Con't).

b. REMOVAL

1. Disconnect light wiring (9) from chassis wiring harness.
2. Remove screw (8), lockwasher (7), and housing (6) from trailer. Discard lockwasher.

c. INSTALLATION

1. Install housing (6) on trailer with new lockwasher (7) and screw (8).
2. Connect light wiring (9) to chassis wiring harness.

FOLLOW-ON TASKS:

- Connect intervehicular cable to towing vehicle (para 2-11).
- Check operation of light.

4-11. TAILLIGHT STOPLIGHT MAINTENANCE.

This Task Covers:

a. Repair
b. Removal
c. Installation

Initial Setup:

Equipment Conditions:

- Intervehicular cable disconnected from towing vehicle (para 2-12).

Tools/Test Equipment:

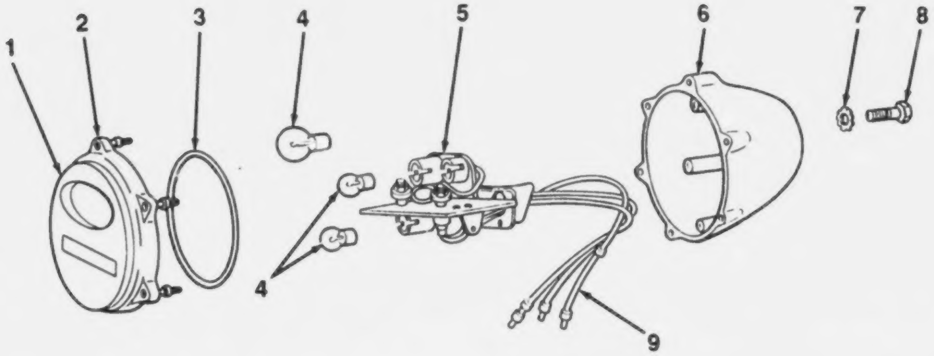
- General mechanic's tool kit

Materials/Parts:

- Marker tags (Item 15, Appendix E)
- Two lockwashers

a. REPAIR

1. Loosen six captive screws (2) and remove lens retainer (1) from body (6). Inspect preformed packing (3) for damage. If damaged, remove and discard.
2. Remove lamps (4) from sockets (5).
3. Install lamps (4) in sockets (5).
4. If removed, install new preformed packing (3) in lens retainer (1).
5. Install lens retainer (1) on body (6) and tighten six captive screws (2).



TA504985

4-11. TAILLIGHT STOPLIGHT MAINTENANCE (Con't).

b. REMOVAL

NOTE

Tag wires before disconnecting.

1. Disconnect light wiring (9) from chassis wiring harness.
2. Remove two screws (8), lockwashers (7), and body (6) from trailer. Discard lockwashers.

c. INSTALLATION

1. Install body (6) on trailer with two new lockwashers (7) and screws (8).
2. Connect light wires (9) to chassis wiring harness.

FOLLOW-ON TASKS:

- Connect intervehicular cable to towing vehicle (para 2-11).
- Check operation of light.

4-12. COMPOSITE LIGHT ASSEMBLY MAINTENANCE.

This Task Covers:

a. Repair
b. Removal
c. Installation

Initial Setup:

Equipment Conditions:

- Intervehicular cable disconnected from towing vehicle (para 2-12).

Tools/Test Equipment:

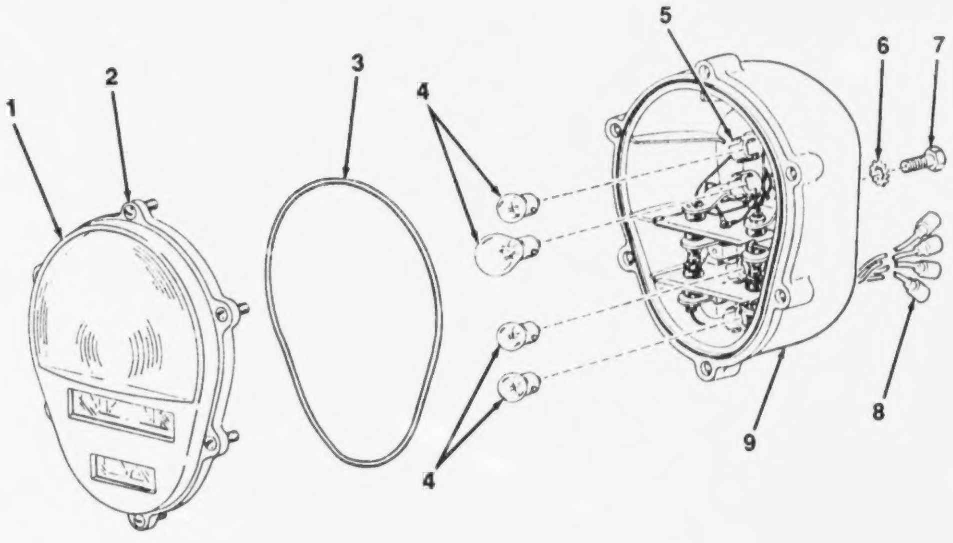
- General mechanic's tool kit

Materials/Parts:

- Marker tags (Item 15, Appendix E)
- Two lockwashers

a. REPAIR

1. Loosen six captive screws (2) and remove lens (1) from body (9). Inspect preformed packing (3) for damage. If damaged, remove and discard.
2. Remove lamps (4) from sockets (5).
3. Install lamps (4) in sockets (5).
4. If removed, install new preformed packing (3) in lens (1).
5. Install lens (1) on body (9) and tighten six captive screws (2).



TA504986

4-12. COMPOSITE LIGHT ASSEMBLY MAINTENANCE (Con't).

b. REMOVAL

NOTE

Tag wires before disconnecting.

1. Disconnect light wiring (8) from chassis wiring harness.
2. Remove two screws (7), lockwashers (6), and body (9) from trailer. Discard lockwashers.

c. INSTALLATION

1. Install body (9) on trailer with two new lockwashers (6) and screws (7).
2. Connect light wiring (8) to chassis wiring harness.

FOLLOW-ON TASKS:

- Connect intervehicular cable to towing vehicle (para 2-11).
- Check operation of light.

4-13. CHASSIS WIRING HARNESS MAINTENANCE (M514).

This Task Covers:

a. Repair
b. Removal
c. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).
- Intervehicular cable disconnected from towing vehicle (para 2-12).

Materials/Parts:

- Marker tags (Item 15, Appendix E)
- Ten lockwashers

Tools/Test Equipment:

- General mechanic's tool kit

a. REPAIR

1. Inspect three clip assemblies (2) for damage and corrosion. If clip assembly is damaged or corrosion cannot be removed, remove electrical connectors from clip assembly. Remove two screws (12), lockwashers (1), and clip assembly. Discard lockwashers.
2. Inspect grommets (10) for damage. Replace all damaged grommets.
3. Inspect chassis wiring harness for damaged terminals or lugs, broken insulation, or other damage. Replace if damaged.

b. REMOVAL

1. Remove four screws (6), lockwashers (5), and cover (4). Discard lockwashers.

NOTE

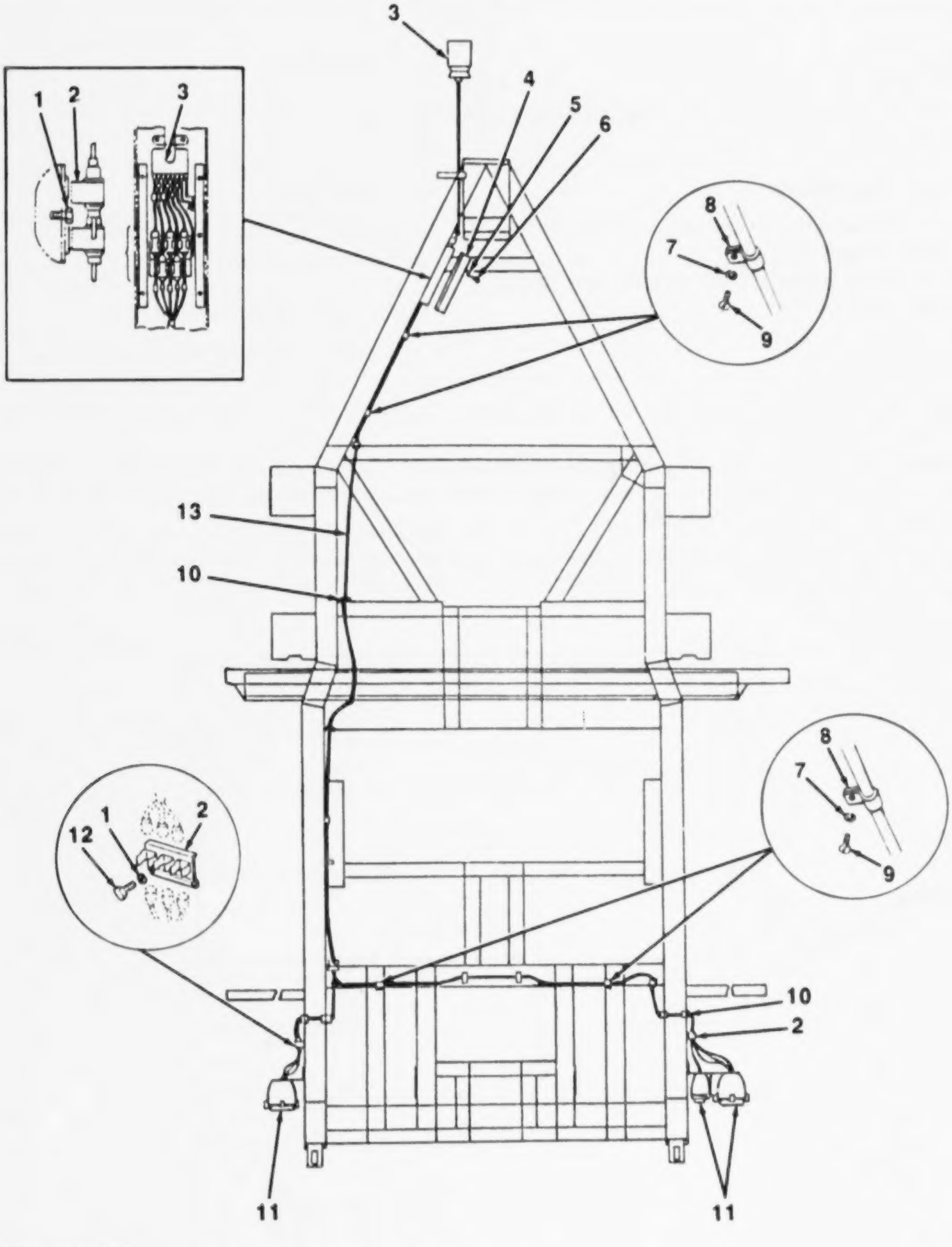
Tag wires before disconnecting.

2. Disconnect chassis wiring harness (13) from intervehicular cable (3).
3. Disconnect lights (11) from chassis wiring harness (13).
4. Remove six screws (9), lockwashers (7), and clamps (8) from chassis wiring harness (13), trailer frame, and crossmember. Discard lockwashers.
5. Starting at one end, remove grommets (10) and carefully pull chassis wiring harness (13) through holes in crossmember. Remove chassis wiring harness from trailer.

c. INSTALLATION

1. If removed, install clip assemblies (2) with two new lockwashers (1) and screws (12).
2. Starting at one end, carefully thread chassis wiring harness (13) through holes in crossmembers and install grommets (10).
3. Install six clamps (8) on chassis wiring harness (13), trailer frame, and crossmember with six new lockwashers (7) and screws (9).
4. Connect lights (11) to chassis wiring harness (13).
5. Connect chassis wiring harness (13) to intervehicular cable (3).
6. Install cover (4) with four new lockwashers (5) and screws (6).

4-13. CHASSIS WIRING HARNESS MAINTENANCE (M514) (Con't).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FOLLOW-ON TASKS:

- Connect intervehicular cable to towing vehicle (para 2-11).
- Check operation of lights.

TA504987

4-14. CHASSIS WIRING HARNESS MAINTENANCE (M390C).

This Task Covers:

a. Repair
b. Removal
c. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).
- Intervehicular cable disconnected from towing vehicle (para 2-12).

Materials/Parts:

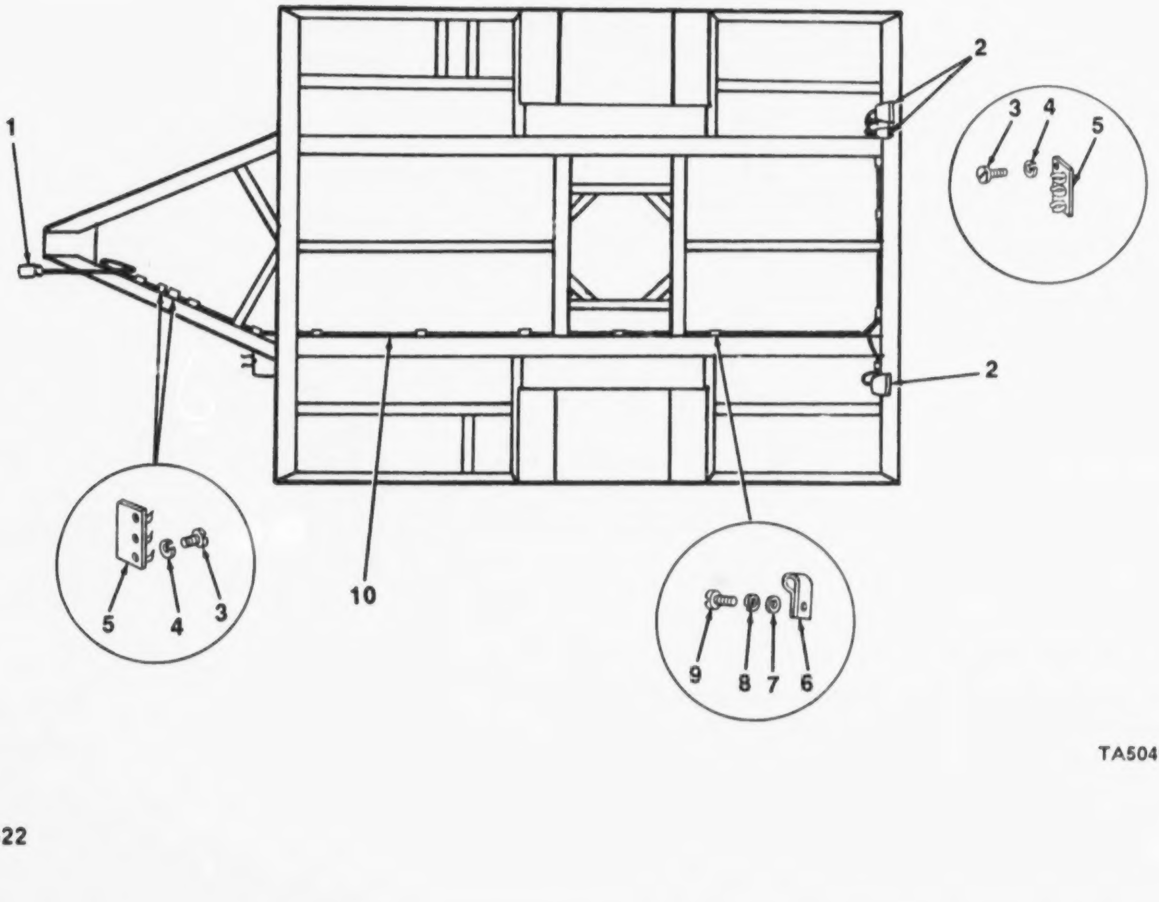
- Marker tags (Item 15, Appendix E)
- Eleven lockwashers

Tools/Test Equipment:

- General mechanic's tool kit

a. REPAIR

1. Inspect three spring clips (5) for damage and corrosion. If spring clip is damaged or corrosion cannot be removed, remove electrical connectors from spring clip. Remove three screws (3), lockwashers (4), and spring clip. Discard lockwashers.
2. Inspect chassis wiring harness for damaged terminals or lugs, broken insulation, or other damage. Replace if damaged.



TA504988

4-14. CHASSIS WIRING HARNESS MAINTENANCE (M390C) (Con't).

b. REMOVAL

NOTE

Tag wires before disconnecting.

1. Disconnect chassis wiring harness (10) from intervehicular cable (1).
2. Disconnect lights (2) from chassis wiring harness (10).
3. Remove 11 screws (9), lockwashers (8), flatwashers (7), and straps (6). Remove chassis wiring harness (10). Discard lockwashers.

c. INSTALLATION

1. If removed, install spring clips (5) with three new lockwashers (4) and screws (3).
2. Position chassis wiring harness (10) and install with 11 straps (6), flatwashers (7), new lockwashers (8), and screws (9).
3. Connect lights (2) to chassis wiring harness (10).
4. Connect wiring harness (10) to intervehicular cable (1).

FOLLOW-ON TASKS:

- Connect intervehicular cable to towing vehicle (para 2-11).
- Check operation of lights.

4-15. INTERVEHICULAR CABLE MAINTENANCE (M514).

This Task Covers:

a. Repair
b. Removal
c. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).
- Intervehicular cable disconnected from towing vehicle (para 2-12).

Materials/Parts:

- Marker tags (Item 15, Appendix E)
- Eight lockwashers

Tools/Test Equipment:

- General mechanic's tool kit

a. REPAIR

1. Inspect clip assembly (17) for damage or corrosion. If clip assembly is damaged or corrosion cannot be removed, remove electrical connectors and ground terminal from clip assembly. Remove two screws (15), lockwashers (16), and clip assembly. Discard lockwashers.
2. Inspect intervehicular cable for damaged terminals or lugs, broken insulation, or other damage. Replace if damaged.

b. REMOVAL

1. Remove four screws (12), lockwashers (11), and cover (13). Discard lockwashers.

NOTE

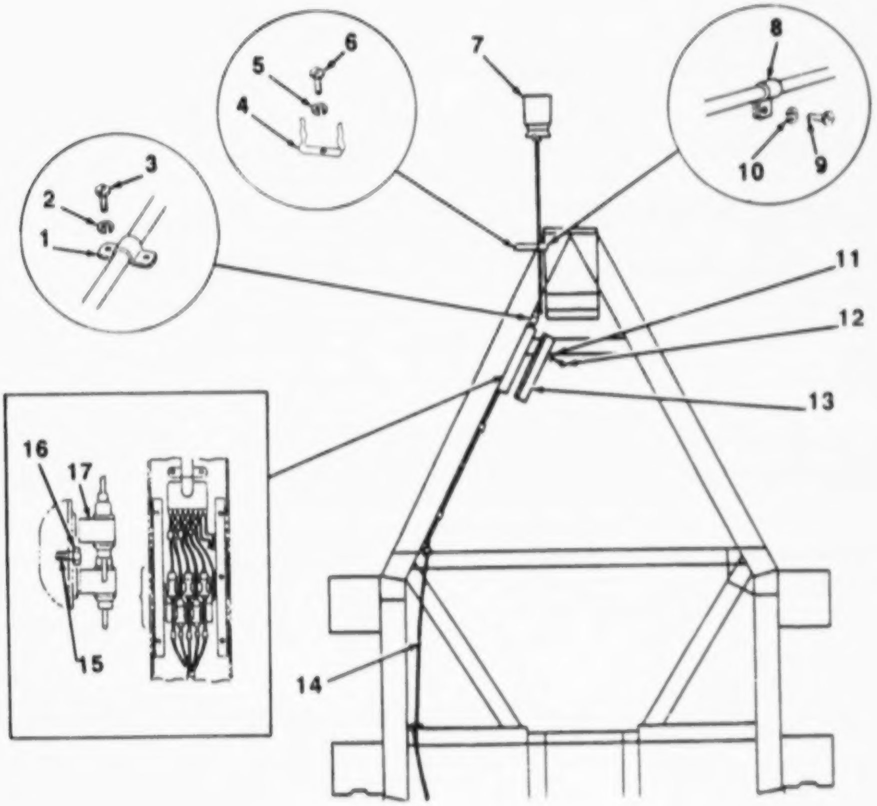
Tag wires before disconnecting.

2. Disconnect chassis wiring harness (14) from intervehicular cable (7).
3. Remove two screws (3), lockwashers (2), and clip (1). Discard lockwashers.
4. Remove screw (9), lockwasher (10), and strap (8). Discard lockwasher.
5. Remove screw (6), lockwasher (5), and clip (4). Remove intervehicular cable (7). Discard lockwasher.

c. INSTALLATION

1. If removed, install clip assembly (17) with two new lockwashers (16) and screws (15).
2. Position intervehicular cable (7) for installation.
3. Install clip (4) with new lockwasher (5) and screw (6).
4. Install strap (8) with new lockwasher (10) and screw (9).
5. Install clip (1) with two new lockwashers (2) and screws (3).
6. Connect chassis wiring harness (14) to intervehicular cable (7).
7. Install cover (13) with two new lockwashers (11) and screws (12).

4-15. INTERVEHICULAR CABLE MAINTENANCE (M514) (Con't).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FOLLOW-ON TASKS:

- Connect intervehicular cable to towing vehicle (para 2-11).
- Check operation of lights.

TA504989

4-16. INTERVEHICULAR CABLE MAINTENANCE (M390C).

This Task Covers:

a. Repair
b. Removal
c. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).
- Intervehicular cable disconnected from towing vehicle (para 2-12).

Materials/Parts:

- Marker tags (Item 15, Appendix E)
- Two lockwashers

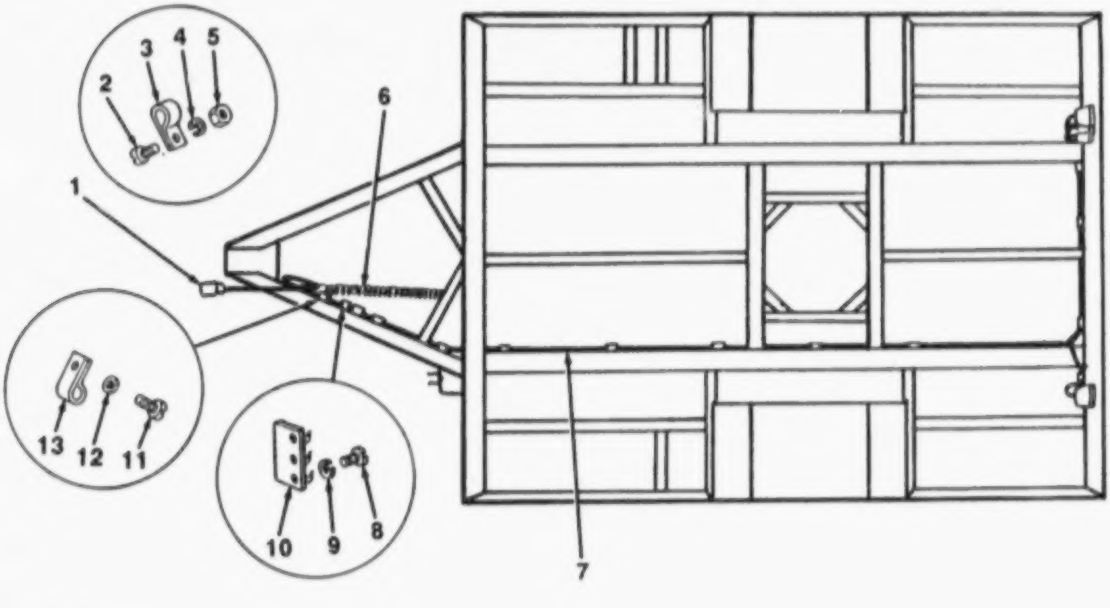
Tools/Test Equipment:

- General mechanic's tool kit

a. REPAIR

1. Inspect spring clip (10) for damage or corrosion. If spring clip is damaged or corrosion cannot be removed, remove electrical connectors and ground terminal from spring clip. Remove three screws (8), lockwashers (9), and spring clip. Discard lockwashers.

2. Inspect intervehicular cable for damaged terminals or lugs, broken insulation, or other damage. Replace if damaged.



TA 504990

4-16. INTERVEHICULAR CABLE MAINTENANCE (M390C) (Con't).

b. REMOVAL

NOTE

Tag wires before disconnecting.

1. Disconnect chassis wiring harness (7) from intervehicular cable (1).
2. Remove spring (6).
3. Remove nut (5), lockwasher (4), screw (2), and clamp (3). Discard lockwasher.
4. Remove screw (11), lockwasher (12), and clamp (13). Remove intervehicular cable (1). Discard lockwasher.

c. INSTALLATION

1. If removed, install spring clip (10) with three new lockwashers (9) and screws (10).
2. Position intervehicular cable (1) and install clamp (13) with new lockwasher (12) and screw (11).
3. Install clamp (3) with screw (2), new lockwasher (4), and nut (5).
4. Install spring (6).
5. Connect chassis wiring harness (7) to intervehicular cable (1).

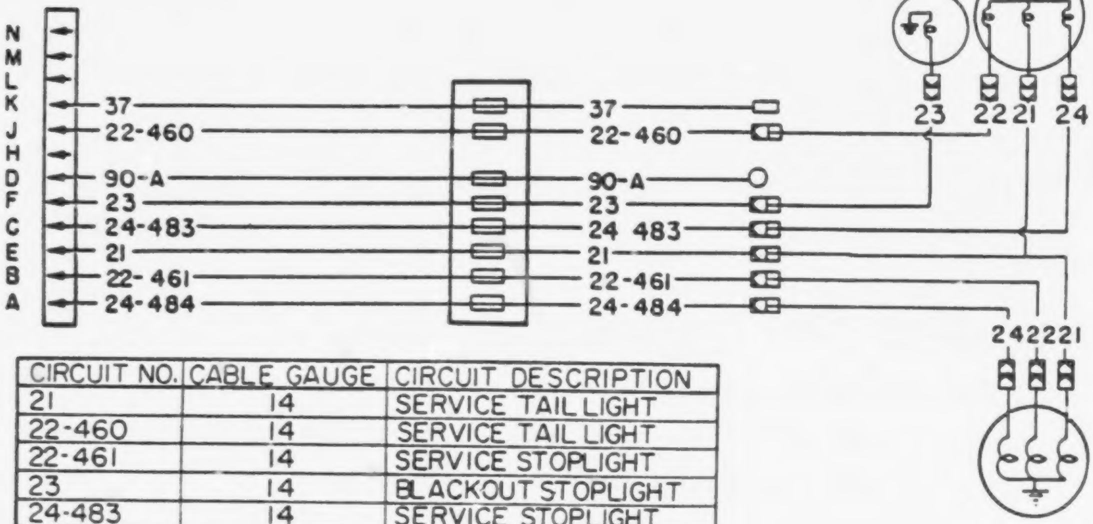
FOLLOW-ON TASKS:

- Connect intervehicular cable to towing vehicle (para 2-11).
- Check operation of lights.

4-17. WIRING DIAGRAMS.

NOTE

Refer to these wiring diagrams when performing electrical troubleshooting and maintenance.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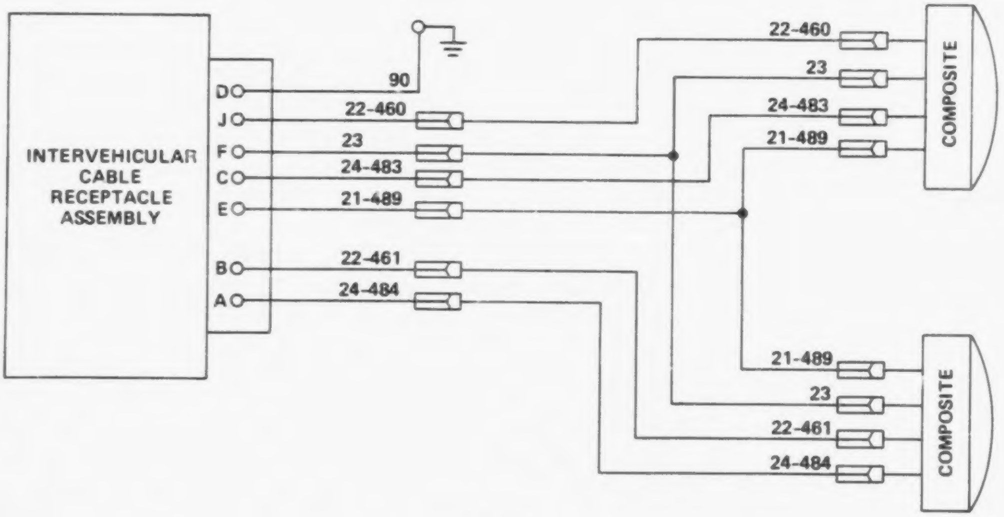
CIRCUIT NO.	CABLE GAUGE	CIRCUIT DESCRIPTION
21	14	SERVICE TAIL LIGHT
22-460	14	SERVICE TAIL LIGHT
22-461	14	SERVICE STOPLIGHT
23	14	BLACKOUT STOPLIGHT
24-483	14	SERVICE STOPLIGHT
24-484	14	SERVICE TAILLIGHT
37	14	OPEN (CAPPED)
90-A	14	GROUND

M514


INTERVEHICULAR CABLE RECEPTACLE ASSEMBLY
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21-489
COMPOSITE
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23
22-461
24-484
COMPOSITE

M390C

TA504991

Section VI. REAR AXLE ASSEMBLY MAINTENANCE

4-18. REAR AXLE ASSEMBLY REPLACEMENT (M390C).

This Task Covers:

a. Removal b. Installation

Initial Setup:

Equipment Conditions:

- Trailer uncoupled from towing vehicle and leveled (paras 2-12 and 2-13).

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set
- Drain pan
- Two jackstands

Materials/Parts:

- Rags (Item 14, Appendix E)
- Thirty-one lockwashers

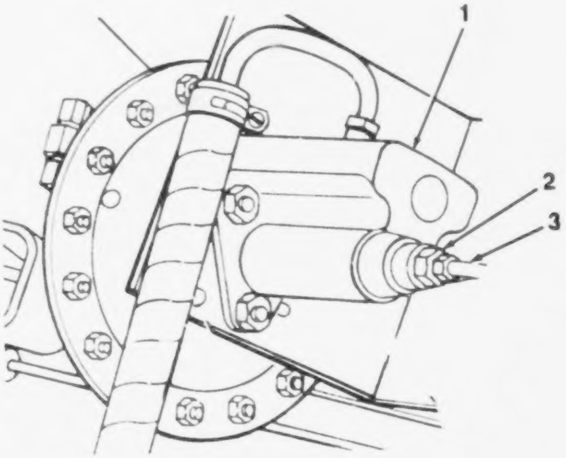
Personnel Required: Three

a. REMOVAL

NOTE

A suitable container should be used to catch any draining brake fluid. Ensure that all spills are cleaned up.

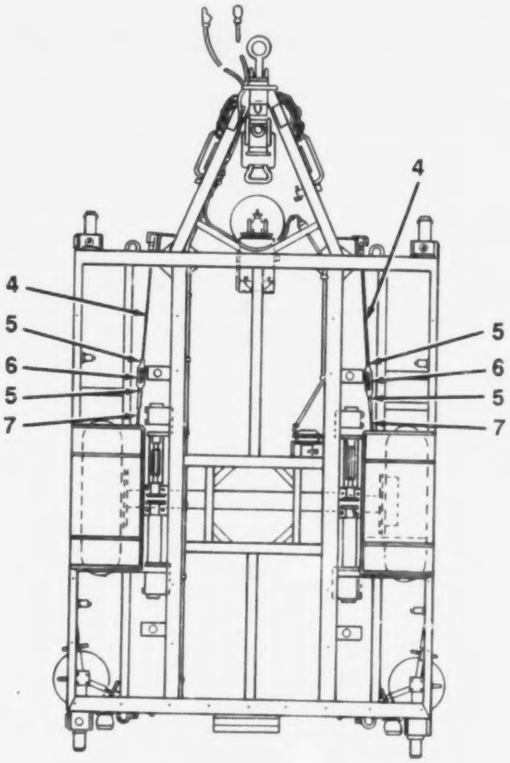
1. Place a suitable container under master cylinder (1). Disconnect hose (3) from reducer (2) and allow brake fluid to drain into container.



TA504992

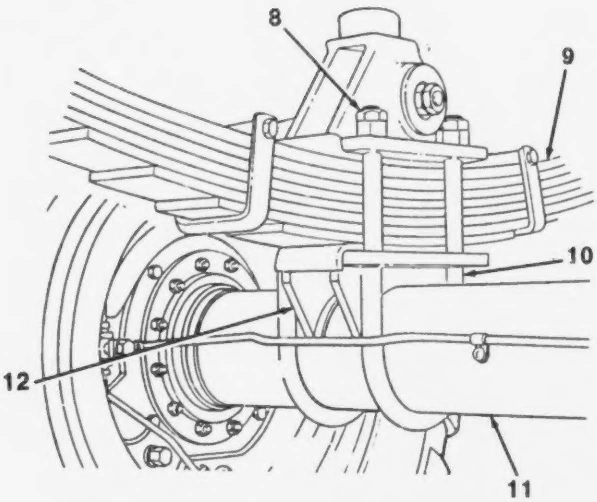
4-18. REAR AXLE ASSEMBLY REPLACEMENT (M390C) (Con't).

2. Loosen two nuts (5) at each turnbuckle (6). Remove turnbuckles from push-pull control assemblies (7) and rods (4).



3. Raise retractable support assembly (para 2-11).

4. Remove eight nuts (8) and two U-bolts (10) securing each end of axle (11) to springs (9).



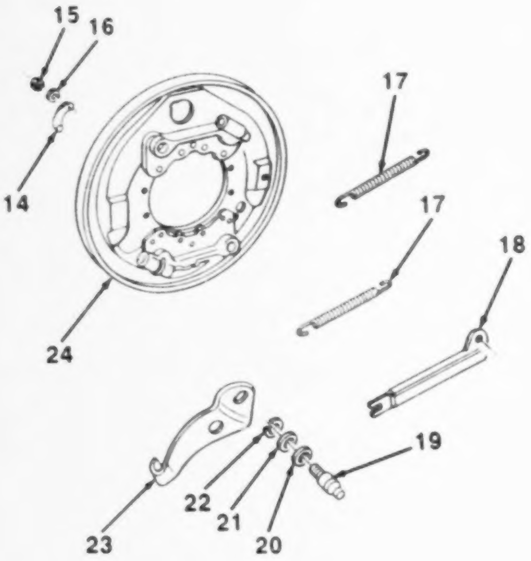
TA504993

4-18. REAR AXLE ASSEMBLY REPLACEMENT (M390C) (Con't).

WARNING

- Stand clear of lifting device when raising trailer. Failure to follow this warning may result in serious injury or death to personnel.
- Axle is heavy and awkward to handle. Use caution, provide adequate support, and use assistance during removal. Failure to follow this warning may result in serious injury to personnel.

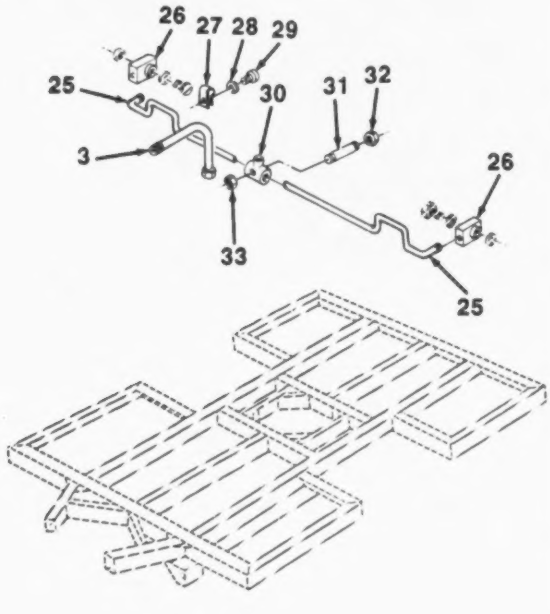
5. Use a suitable lifting device to raise front of trailer high enough for wheels to clear frame. Roll wheels and axle (11) from beneath trailer. Lower trailer and support on two jackstands.
6. Turn axle (11) so that spring pads (12) are down. Block axle under spring pads so that wheels are off ground.
7. Remove wheels (para 4-40).
8. Remove wheel hubs and brakedrums (para 4-42).
9. Remove two nuts (15), lockwashers (16), and cable guide bracket (14) securing each push-pull control assembly to back side of backing plates (24). Disconnect push-pull control assembly from lever (23) and remove from rear of backing plate. Discard lockwashers.
10. Remove brakeshoe return springs (17).
11. Remove slotted washer (20), flatwasher (21), and spring washer (22) securing link (18) to pin (19). Remove link from pin.

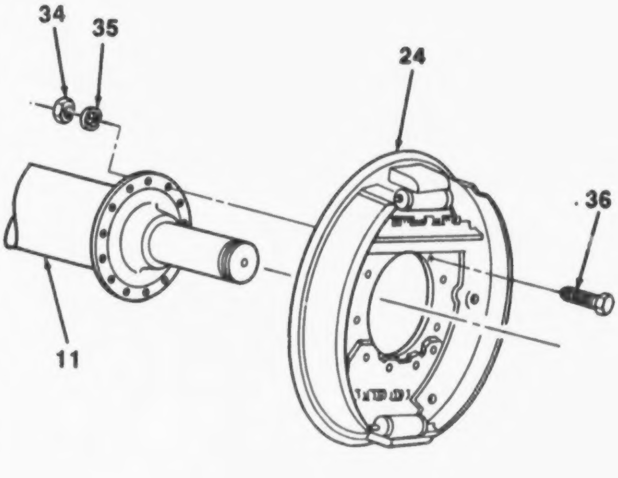


TA504994

4-18. REAR AXLE ASSEMBLY REPLACEMENT (M390C) (Con't).

12. Disconnect tubes (25) from connector (30) attached to axle (11).
13. Disconnect hose (3) from connector (30).
14. Disconnect tubes (25) from connectors (26) attached to backing plates (24).
15. Remove three screws (29), lockwashers (28), and clamps (27) securing tubes (25) to axle (11). Remove tubes. Discard lockwashers.
16. Remove nut (33) securing connector (30) to axle (11). Remove connector.
17. Remove nut (32) and stud (31) from axle (11).
18. Remove 12 nuts (34) and lockwashers (35) from mounting screws (36) securing each backing plate (24) to axle flange. Remove backing plates with brakeshoes and wheel cylinders as an assembly from axle (11). Discard lockwashers.





b. INSTALLATION

1. Position backing plates (24), with attached brakeshoes and wheel cylinders, on axle flanges. Secure each backing plate to axle flange with 12 mounting screws (36), new lockwashers (35), and nuts (34).
2. Install stud (31) in tapped hole in axle (11) and secure with nut (32).
3. Install connector (30) on stud (31) with nut (33).
4. Position tubes (25) on axle and connect to connector (30).
5. Secure tubes (25) to axle with three clamps (27), new lockwashers (28), and screws (29).

TA504995

4-18. REAR AXLE ASSEMBLY REPLACEMENT (M390C) (Con't).

6. Connect tubes (25) to connectors (26) at backing plates (24).

7. Connect hose (3) to connector (30).

8. Install link (18) on pin (19) attached to upper end of rear brakeshoes, making sure that pin on back side of lever engages slot in end of link. Secure each link to pin using spring washer (22), flatwasher (21) and slotted washer (20).

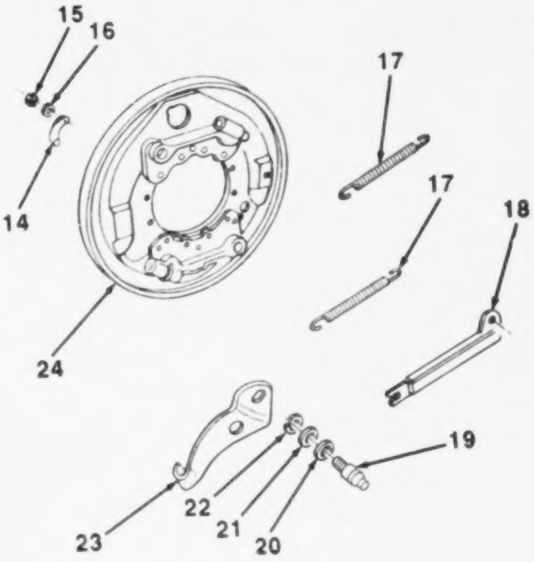
9. Install brakeshoe return springs (17).

10. Thread ball end of each push-pull control assembly through hole in backing plate (24) and attach to low end of lever (23).

11. Secure each push-pull control assembly to back side of backing plate (24) with cable guide bracket (14), two new lockwashers (16), and nuts (15).

12. Install wheel hubs and brakedrums (para 4-42).

13. Install wheels (para 4-40).



WARNING

Stand clear of lifting device when raising trailer. Failure to follow this warning may result in serious injury or death to personnel.

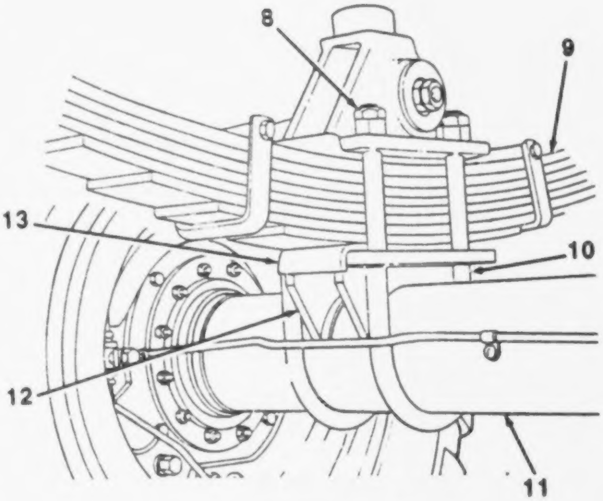
14. Use a suitable lifting device to raise front end of trailer enough for wheels and tires to clear frame. Remove two jackstands.

WARNING

Axle is heavy and awkward to handle. Use caution, provide adequate support, and use assistance during installation. Failure to follow this warning may result in serious injury to personnel.

15. Roll wheels and axle assembly under trailer and into position under springs (9). Turn axle (11) so that spring pads (12) are alined with spring plates (13).

16. Slowly lower trailer so that spring plates (13) engage spring pads (12) on axle (11). Secure each end of axle to springs (9) with two U-bolts (10) and eight nuts (8).



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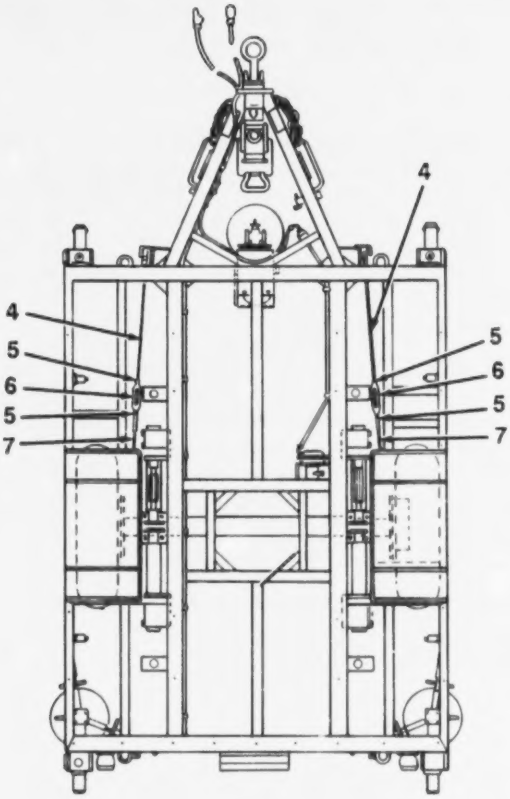
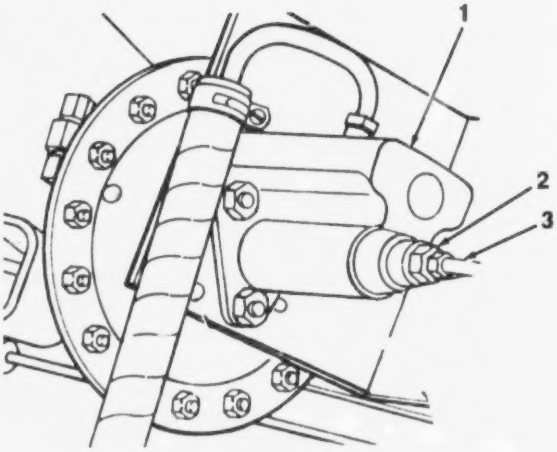
4-18. REAR AXLE ASSEMBLY REPLACEMENT (M390C) (Con't).

17. Lower retractable support assembly to support position (para 2-12).

18. Screw each turnbuckle (6) onto rod (4) and push-pull control assembly (7). Do not tighten nuts (5).



19. Connect hose (3) to reducer (2) at master cylinder (1).



FOLLOW-ON TASKS:

- Bleed brakes (para 4-26).
- Adjust handbrake levers (para 3-7).

TA504997

Section VII. BRAKE SYSTEM MAINTENANCE

Paragraph Title	Page Number
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Wheel Cylinder Replacement (M514)	4-63

4-19. HANDBRAKE LEVER REPLACEMENT (M514).

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).

Tools/Test Equipment:

- General mechanic's tool kit

Materials/Parts:

- One cotter pin
- Six lockwashers

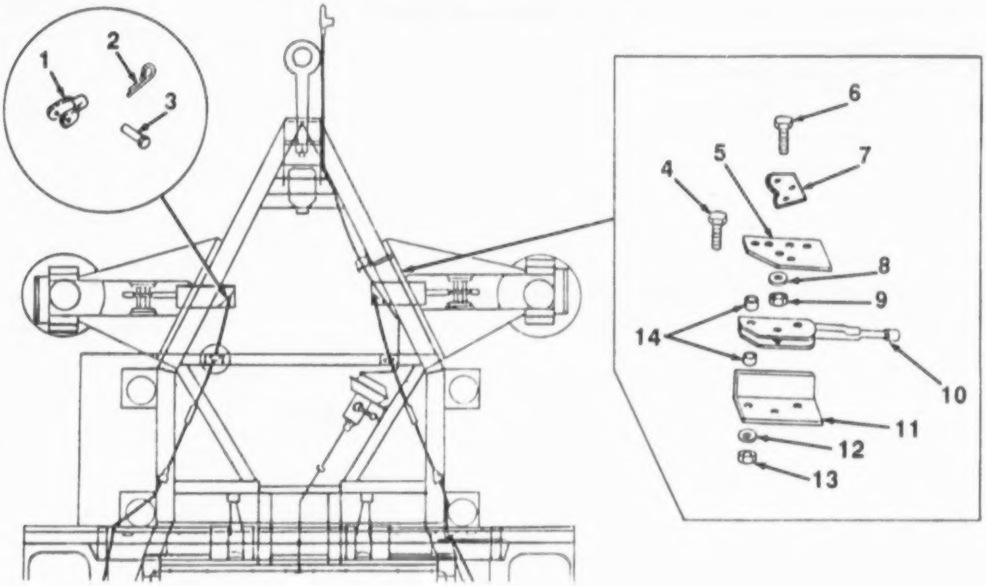
4-19. HANDBRAKE LEVER REPLACEMENT (M514) (Con't).

a. REMOVAL

WARNING

If trailer is not coupled to towing vehicle, ensure that wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

1. Release handbrake lever (10) being removed.
2. Remove cotter pin (2), straight pin (3), and disconnect clevis (1) from handbrake lever (10). Discard cotter pin.
3. Remove three nuts (9), lockwashers (8), and screws (6) securing handbrake lever (10) to frame. Remove handbrake lever and two spacer plates (7). Discard lockwashers.
4. Remove three nuts (13), lockwashers (12), and screws (4) securing plate (5) and bracket (11) to handbrake lever (10). Remove plate, bracket, and six spacers (14). Discard lockwashers.



b. INSTALLATION

WARNING

If trailer is not coupled to towing vehicle, ensure that wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

1. Assemble handbrake lever (10), six spacers (14), bracket (11), and plate (5) with three screws (4), new lockwashers (12), and nuts (13).

TA504998

4-19. HANDBRAKE LEVER REPLACEMENT (M514) (Con't).

2. Install handbrake lever (10) and two spacer plates (7) on frame with three screws (6), new lockwashers (8), and nuts (9).

3. Connect clevis (1) to handbrake lever (10) with straight pin (3) and new cotter pin (2).

4. Adjust handbrake lever (para 3-7). Adjust handbrake cable (para 4-21).

FOLLOW-ON TASKS:

- Lubricate handbrake lever (Chapter 3, Section I).

4-20. HANDBRAKE LEVER REPLACEMENT (M390C).

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).

Tools/Test Equipment:

- General mechanic's tool kit

Materials/Parts:

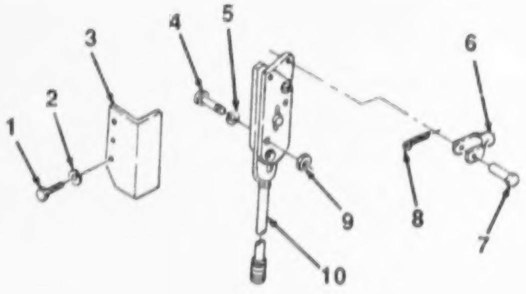
- One cotter pin
- Three locknuts
- Three lockwashers

a. REMOVAL

WARNING

If trailer is not coupled to towing vehicle, ensure that wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

1. Release handbrake lever (10) being removed.
2. Remove cotter pin (8), straight pin (7), and disconnect clevis (6) from handbrake lever (10). Discard cotter pin.
3. Remove three screws (1), lockwashers (2), and guard (3) from frame. Discard lockwashers.
4. Remove three locknuts (9), screws (4), spacers (5), and handbrake lever (5) from frame. Discard locknuts.



b. INSTALLATION

WARNING

If trailer is not coupled to towing vehicle, ensure that wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

1. Install handbrake lever (10) on frame with three screws (4), spacers (5), and new locknuts (9).
2. Install guard (3) on frame with three new lockwashers (2) and screws (1).

TA504999

4-20. HANDBRAKE LEVER REPLACEMENT (M390C) (Con't).

3. Connect clevis (6) to handbrake lever (10) with straight pin (7) and new cotter pin (8).

4. Adjust handbrake lever (para 3-7). Adjust handbrake cable (para 4-22).

FOLLOW-ON TASKS:

- Lubricate handbrake lever (Chapter 3, Section I).

4-21. HANDBRAKE CABLE MAINTENANCE (M514).

This Task Covers:

a. Removal
b. Inspection
c. Installation
d. Adjustment

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).

Tools/Test Equipment:

- General mechanic's tool kit
- Floor jack

Materials/Parts:

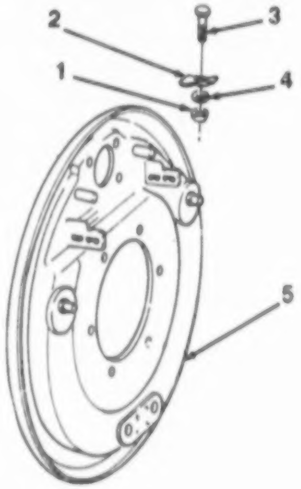
- Two cotter pins
- Two lockwashers

a. REMOVAL

WARNING

If trailer is not coupled to towing vehicle, ensure that wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

1. Release handbrake lever (24) for handbrake cable being removed.
2. Remove cotter pin (7), straight pin (8), and disconnect clevis (6) from handbrake lever (24). Discard cotter pin.
3. Remove cotter pin (18), straight pin (17), and disconnect clevis (16) from brake expander (15). Discard cotter pin.
4. Remove two bolts (23) and strap (22).
5. Remove screw (21), lockwasher (20), and clamp (19). Discard lockwasher.
6. Remove nut (1), lockwasher (4), bolt (3), and clamp (2) from backing plate (5). Remove front and rear wire rope assemblies (9 and 14) from frame. Discard lockwasher.
7. Loosen two nuts (11 and 13). Remove turnbuckle (12) from front wire rope assembly (9) and rear wire rope assembly (14).
8. Remove nut (11) and slotted washer (10) from front wire rope assembly (9). Remove nut (13) from rear wire rope assembly (14).

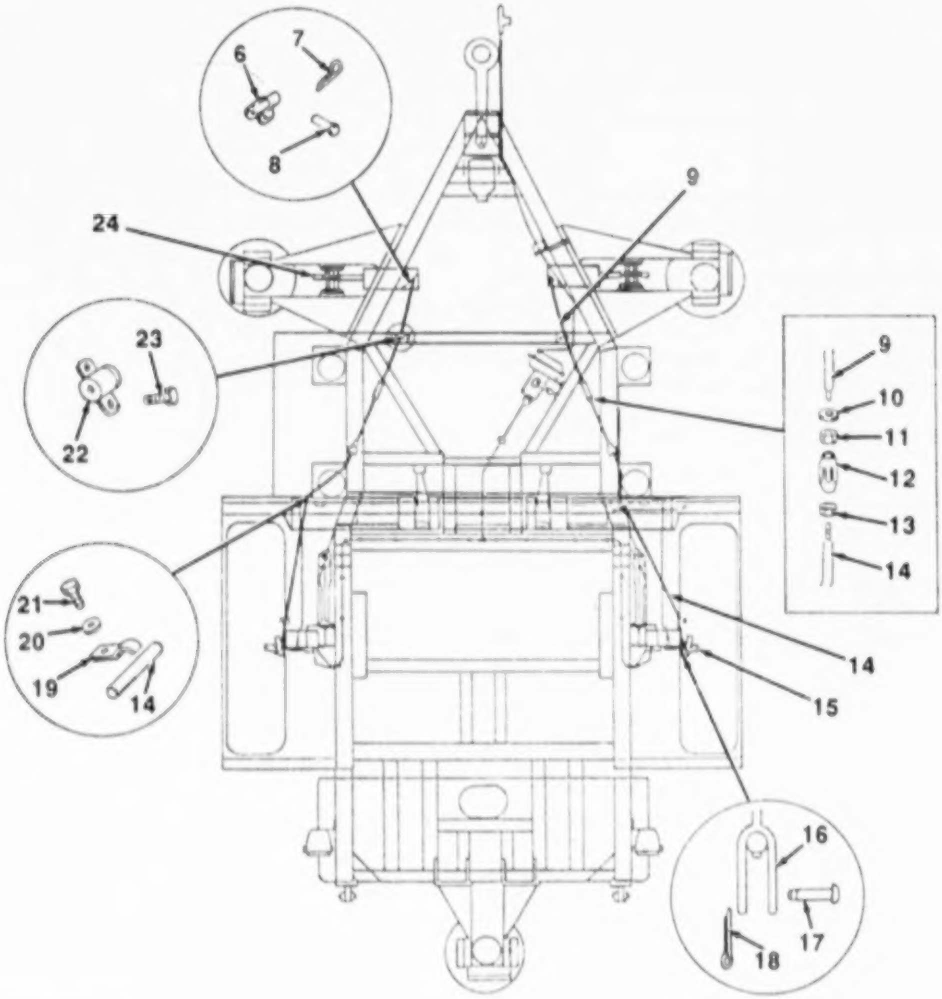


b. INSPECTION

Inspect wire rope assemblies for frayed or broken strands. Replace wire rope assemblies if strands are frayed or broken.

TA505000

4-21. HANDBRAKE CABLE MAINTENANCE (M514) (Con't).



c. INSTALLATION

WARNING

If trailer is not coupled to towing vehicle, ensure that wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

1. Install slotted washer (10) and nut (11) on front wire rope assembly (9). Install nut (13) on rear wire rope assembly (14).
2. Connect front and rear wire rope assemblies (9 and 14) with turnbuckle (12).

TA505001

4-21. HANDBRAKE CABLE MAINTENANCE (M514) (Con't).

3. Connect rear wire rope assembly (14) to backing plate (5) with clamp (2), bolt (3), new lockwasher (4) and nut (1).

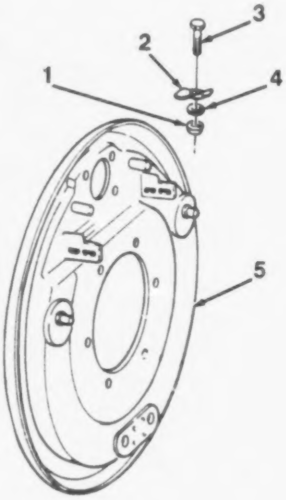
4. Install rear wire rope assembly (14) to frame with clamp (19), new lockwasher (20), and screw (21).

5. Install front wire rope assembly (9) and strap (22) to frame with two bolts (23).

6. Connect clevis (16) to brake expander (15) with straight pin (17) and new cotter pin (18).

7. Connect clevis (6) to handbrake lever (24) with straight pin (8) and new cotter pin (7).

8. Perform ADJUSTMENT (subpara d).



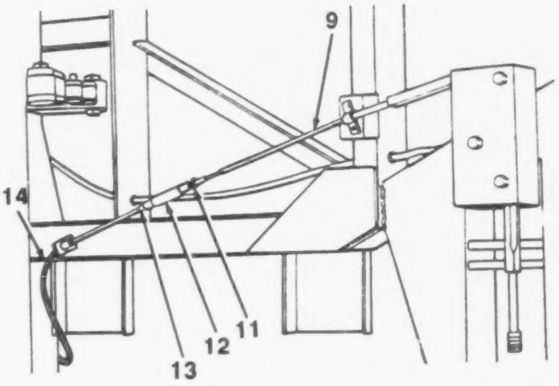
d. ADJUSTMENT

1. Turn adjusting knob (26) counterclockwise until link pin (25) is almost touching end of slots. Ensure that handbrake lever (24) is fully released.

2. Raise side of trailer where handbrake cable is being adjusted until wheel is off ground.

3. Loosen nuts (11 and 13) at each end of turnbuckle (12). Turn turnbuckle counterclockwise (as viewed from rear of trailer) until brakeshoes drag slightly when wheel is rotated by hand. Do not allow front and rear wire rope assemblies (9 and 14) to twist.

4. Turn turnbuckle (12) clockwise until brakeshoes no longer drag when wheel is rotated by hand.



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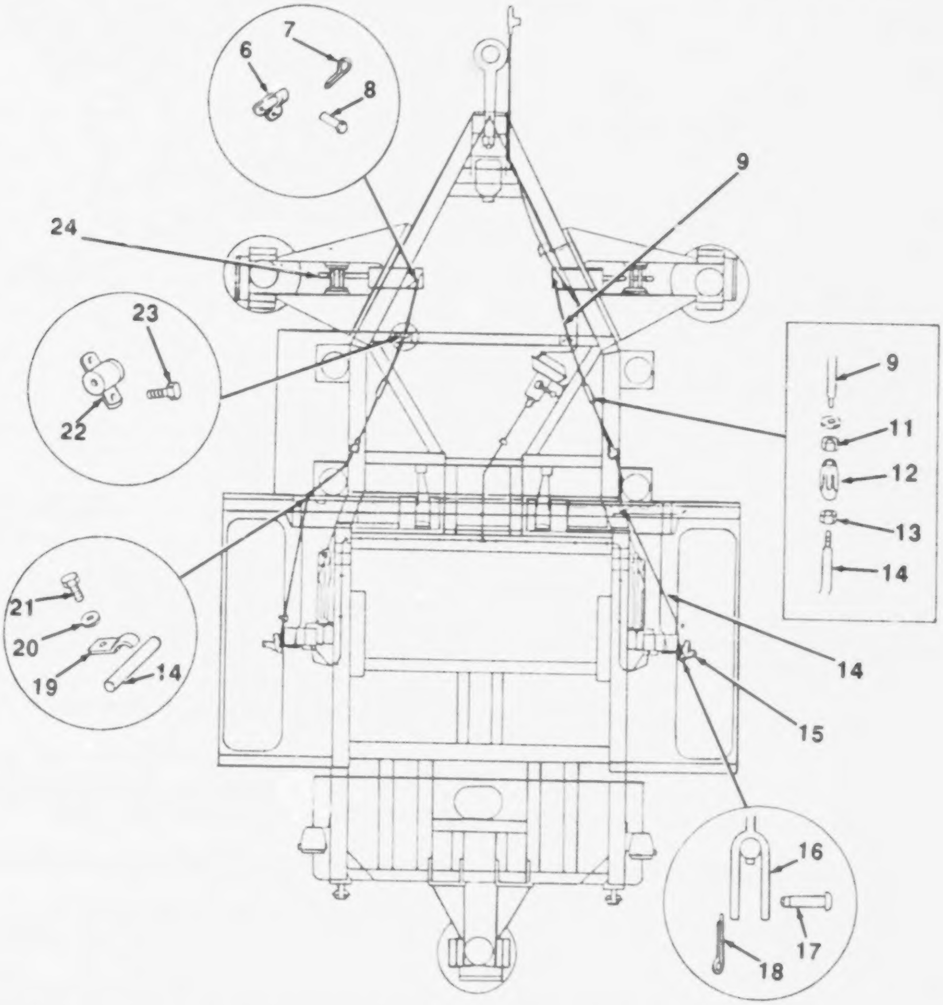
4-21. HANDBRAKE CABLE MAINTENANCE (M514) (Con't).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5. Apply handbrake lever (24). If handbrake lever will not fully apply, turn turnbuckle (12) to obtain correct lever action.
6. Tighten nuts (11 and 13) against turnbuckle (12).
7. Lower trailer.

FOLLOW-ON TASKS:

- Lubricate handbrake cable (Chapter 3, Section I)

TA505003

4-22. HANDBRAKE CABLE MAINTENANCE (M390C).

This Task Covers:

a. Removal
b. Installation
c. Adjustment

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).
- Hub and brakedrum removed (para 4-42).

Tools/Test Equipment:

- General mechanic's tool kit
- Floor jack

Materials/Parts:

- One cotter pin
- Four lockwashers

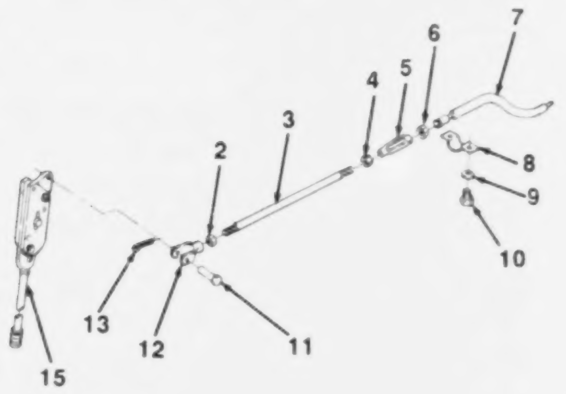
a. REMOVAL

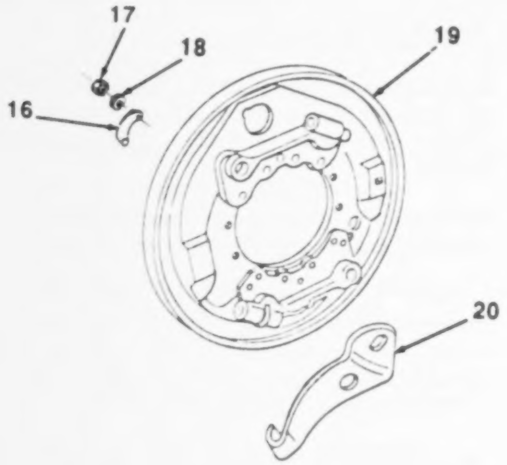
WARNING

If trailer is not coupled to towing vehicle, ensure that wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

1. Remove cotter pin (13), straight pin (11) and disconnect clevis (12) from handbrake lever (15). Discard cotter pin.
2. Remove two nuts (17) and lockwashers (18) from cable guide bracket (16) securing push-pull control assembly (7) to back side of backing plate (19). Discard lockwashers.
3. Disconnect push-pull control assembly (7) from lever (20). Pull push-pull control assembly from rear of backing plate (19).
4. Remove two screws (10), lockwashers (9), and bracket (8). Remove rod (3) and push-pull control assembly (7) from trailer. Discard lockwashers.
5. Loosen two nuts (4 and 6), and remove turnbuckle (5) from push-pull control assembly (7) and rod (3).
6. Remove nut (6) from push-pull control assembly (7). Remove nut (4) from rod (3).
7. Loosen nut (2) and remove clevis (12) and nut from rod (3).

4-22. HANDBRAKE CABLE MAINTENANCE (M390C) (Con't).





b. INSTALLATION

WARNING

If trailer is not coupled to towing vehicle, ensure that wheels are securely chocked. Failure to do so may cause trailer to roll, resulting in injury to personnel or damage to equipment.

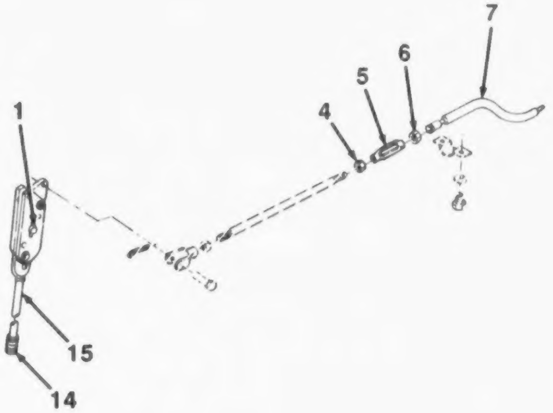
1. Install nut (2) and clevis (12) on rod (3). Tighten nut against clevis.
2. Install nut (4) on rod (3). Install nut (6) on push-pull control assembly (7).
3. Connect rod (3) and push-pull control assembly (7) with turnbuckle (5).
4. Secure push-pull control assembly (7) to frame with bracket (8), two new lockwashers (9), and screws (10).
5. Thread ball end of push-pull control assembly (7) through hole in backing plate (19) and connect to low end of lever (20).
6. Secure push-pull control assembly (7) to back side of backing plate (19) with cable guide bracket (16), two new lockwashers (18), and nuts (17).
7. Install hubs and brakedrums (para 4-42).
8. Install wheels (para 4-40).
9. Connect clevis (12) to handbrake lever (15) with straight pin (11) and new cotter pin (13).
10. Perform ADJUSTMENT (subpara c).

TA505004

4-22. HANDBRAKE CABLE MAINTENANCE (M390C) (Con't).

c. ADJUSTMENT

1. Turn adjusting knob (14) counterclockwise until link pin (1) is almost touching end of slots. Ensure that handbrake lever (15) is fully released.
2. Raise side of trailer where handbrake cable is being adjusted until wheel is off ground.
3. Loosen nuts (4 and 6). Turn turnbuckle (5) counterclockwise (as viewed from rear of trailer) until brakeshoes drag slightly when wheel is rotated by hand. Do not allow push-pull control assembly (7) to twist.
4. Turn turnbuckle (5) clockwise until brakeshoes no longer drag when wheel is rotated by hand.
5. Apply handbrake lever (15). If handbrake lever will not fully apply, turn turnbuckle (5) to obtain correct lever action.
6. Tighten nuts (4 and 6) against turnbuckle (5).
7. Lower trailer.



FOLLOW-ON TASKS:

- Lubricate handbrake cable (Chapter 3, Section I)

TA505005

4-23. BRAKE SYSTEM TESTS.

This Task Covers:

a. Air System Lines and Hose Leakage Test

b. Airbrake Chamber Push Rod Travel Test

Initial Setup:

Equipment Conditions:

- Trailer coupled to towing vehicle (para 2-11).

Tools/Test Equipment:

- General mechanic's tool kit

Materials/Parts:

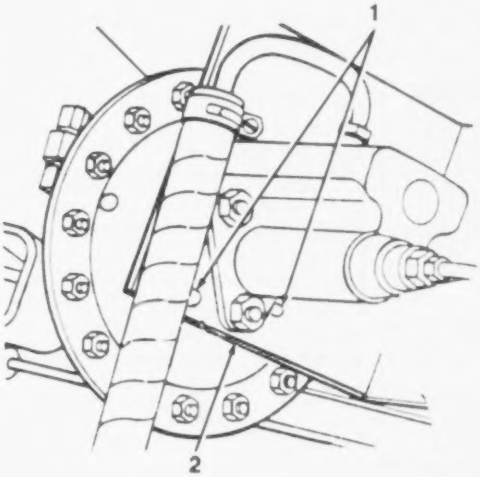
- Detergent (Item 6, Appendix E)
- Rags (Item 14, Appendix E)

a. AIR SYSTEM LINES AND HOSE LEAKAGE TEST

1. With compressed air system fully charged, coat exterior of components and connections with soapy water. Formation of bubbles indicates air leaks.
2. Tighten connections and repeat step 1. If leaks cannot be eliminated, replace defective components (para 4-34 or 4-35).

b. AIRBRAKE CHAMBER PUSH ROD TRAVEL TEST

1. With brakes released, insert a small testing rod in one of two inspection holes (1) in airbrake chamber mounting bracket (2). Mark testing rod at surface of bracket when rod is inserted as far as it will go.
2. Apply brakes and mark testing rod at surface of bracket.
3. Measure distance between two marks. Marks should be between ½ in. and ⅞ in. (13 mm and 22 mm) apart. If marks are less than ½ in. (13 mm) or greater than ⅞ in. (22 mm) apart, adjust brakes (para 4-24 or 4-25).



TA505006

4-24. SERVICE BRAKE ADJUSTMENT (M514).

This Task Covers:

a. Minor Adjustment

b. Major Adjustment

Initial Setup:

Equipment Conditions:

- Trailer leveled (para 2-13).
- Handbrakes released (para 2-3).

Tools/Test Equipment:

- General mechanic's tool kit

a. MINOR ADJUSTMENT

1. To adjust left brake assembly:

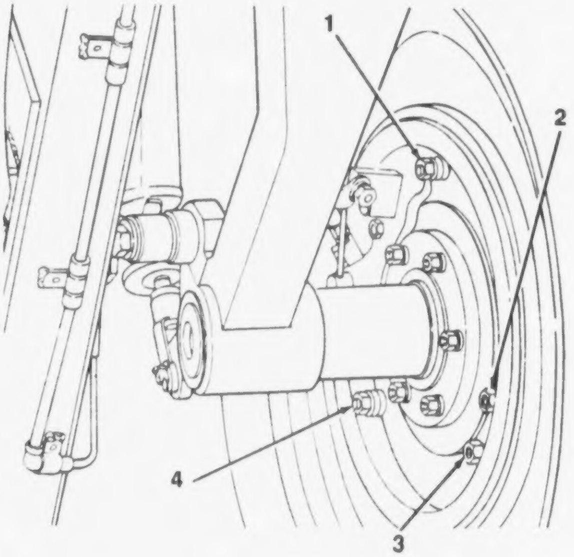
   (a) Turn front brakeshoe adjusting cam (1) clockwise until wheel locks. Turn adjusting cam counterclockwise until a slight drag is felt when turning wheel.

   (b) Turn rear brakeshoe adjusting cam (4) counterclockwise until wheel locks. Turn adjusting cam clockwise until a slight drag is felt when turning wheel.

2. To adjust right brake assembly:

   (a) Turn front brakeshoe adjusting cam (1) counterclockwise until wheel locks. Turn adjusting cam clockwise until a slight drag is felt when turning wheel.

   (b) Turn rear brakeshoe adjusting cam (4) clockwise until wheel locks. Turn adjusting cam counterclockwise until a slight drag is felt when turning wheel.



b. MAJOR ADJUSTMENT

1. To adjust left brake assembly:

   (a) Loosen nuts on front and rear brakeshoe anchor pins (2 and 3).

   (b) Install wrench in socket inside end of front brakeshoe anchor pin (2) and turn clockwise until wheel locks.

   (c) Turn anchor pin (2) counterclockwise until only a slight drag is felt when rotating wheel. Tighten nut to secure anchor pin.

   (d) Turn rear brakeshoe anchor pin (3) counterclockwise until wheel locks.

TA505007

4-24. SERVICE BRAKE ADJUSTMENT (M514) (Con't).

(e) Turn anchor pin (3) clockwise until only a slight drag is felt when rotating wheel. Tighten nut to secure anchor pin.

(f) Perform MINOR ADJUSTMENT (subpara a).

2. To adjust right brake assembly:

(a) Loosen nuts on front and rear brakeshoe anchor pins (2 and 3).

(b) Install wrench in socket inside end of front brakeshoe anchor pin (2) and turn counterclockwise until wheel locks.

(c) Turn anchor pin (2) clockwise until only a slight drag is felt when rotating wheel. Tighten nut to secure anchor pin.

(d) Turn rear brakeshoe anchor pin (3) clockwise until wheel locks.

(e) Turn anchor pin (3) counterclockwise until only a slight drag is felt when rotating wheel. Tighten nut to secure anchor pin.

(f) Perform MINOR ADJUSTMENT (subpara a).

4-25. SERVICE BRAKE ADJUSTMENT (M390C).

This Task Covers:

a. Left Brake Assembly Adjustment

b. Right Brake Assembly Adjustment

Initial Setup:

Equipment Conditions:

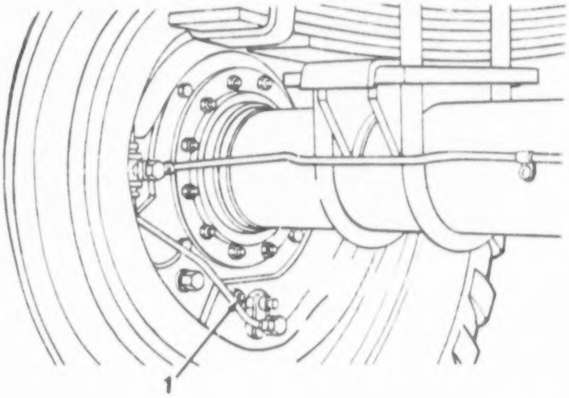
- Trailer leveled (para 2-13).
- Handbrakes released (para 2-3).

Tools/Test Equipment:

- General mechanic's tool kit

a. LEFT BRAKE ASSEMBLY ADJUSTMENT

1. Turn lower adjusting stud (1) on back side of left brake assembly clockwise until rear brakeshoe drags slightly when wheel is rotated by hand.
2. Turn lower adjusting stud (1) counterclockwise just enough to allow wheel to turn freely without drag.
3. Repeat steps 1 and 2 at upper adjusting stud on back side of left brake assembly to adjust front brakeshoe.



b. RIGHT BRAKE ASSEMBLY ADJUSTMENT

1. Turn lower adjusting stud (1) on back side of right brake assembly counterclockwise until rear brakeshoe drags slightly when wheel is rotated by hand.
2. Turn lower adjusting stud (1) clockwise just enough to allow wheel to turn freely without drag.
3. Repeat steps 1 and 2 at upper adjusting stud on back side of right brake assembly to adjust front brakeshoe.

TA505008

4-26. BLEEDING HYDRAULIC BRAKE SYSTEM.

This Task Covers:

a. Manual Bleeding

b. Pressure Bleeding

Initial Setup:

Equipment Conditions:

- Trailer coupled to towing vehicle (manual bleeding only) (para 2-11).

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 2 shop set
- Drain pan
- Pressure bleeder

Materials/Parts:

- Brake fluid (Item 4, Appendix E)
- Rags (Item 14, Appendix E)

Personnel Required: Two

a. MANUAL BLEEDING

NOTE

A suitable container should be used to catch any draining brake fluid. Ensure that all spills are cleaned up.

1. Clean bleeder valves at top and bottom of brake backing plate.
2. Attach bleeder tube to lower bleeder valve.
3. Submerge free end of bleeder tube in approximately 3 in. (7.6 cm) of clean brake fluid. Use a clean, clear jar or bottle to hold brake fluid.

NOTE

Master cylinder must be kept full during bleeding operation to prevent air from entering the system.

4. Remove filler plug from top of master cylinder and fill with brake fluid to within ½ in. (13 mm) from top.
5. Have assistant depress brake pedal of towing vehicle and hold until instructed to release.
6. While assistant depresses brake pedal, open bleeder valve ¾ turn counterclockwise.
7. Close bleeder valve by turning clockwise.
8. Instruct assistant to release brake pedal, then pump brake pedal to maximum height, then depress and hold brake pedal until instructed to release it.
9. Repeat steps 5 through 8 until all air is purged from the line (approximately four times after last bubbles are discharged from bleeder tube).
10. Remove bleeder tube from lower bleeder valve and attach to upper bleeder valve of same wheel.
11. Fill master cylinder with brake fluid to within ½ in. (13 mm) from top.
12. Repeat steps 5 through 8 for upper bleeder valve.
13. Remove bleeder tube from upper bleeder valve.

4-26. BLEEDING HYDRAULIC BRAKE SYSTEM (Con't).

14. Repeat steps 1 through 13 for other wheel.

15. Fill master cylinder with brake fluid to within ½ in. (13 mm) from top and install filler plug.

b. PRESSURE BLEEDING

NOTE

A suitable container should be used to catch any draining brake fluid. Ensure that all spills are cleaned up.

1. Clean wheel cylinder bleeder valves at top and bottom of brake backing plate.
2. Attach bleeder tube to lower bleeder valve.
3. Submerge free end of bleeder tube in approximately 3 in. (7.6 cm) of clean brake fluid. Use a clean, clear jar or bottle to hold brake fluid.
4. Remove filler plug from top of master cylinder. With proper size adapter, connect pressure feeder hose to filler port in top of master cylinder.
5. Open bleeder valve ¾ turn counterclockwise.
6. Observe air bubbles discharged from free end of bleeder tube. When flow of air bubbles stops, close bleeder valve by turning clockwise.
7. Remove bleeder tube from lower bleeder valve and attach to upper bleeder valve of same wheel.
8. Repeat steps 5 and 6 for upper cylinder.
9. Remove bleeder tube from upper bleeder valve.
10. Repeat steps 1 through 3 and 5 through 8 for other wheel.
11. Disconnect pressure feeder hose from master cylinder filler port.
12. Fill master cylinder with brake fluid to within ½ in. (13 mm) from top and install filler plug.

4-27. BRAKESHOE MAINTENANCE (M514).

This Task Covers:

a. Removal
b. Repair
c. Installation

Initial Setup:

Equipment Conditions:

- Hub and brakedrum removed (para 4-41).

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set

Materials/Parts:

- Dry cleaning solvent (Item 7, Appendix E)
- Two cotter pins
- Two linings
- Ten lockwashers
- Twenty rivets

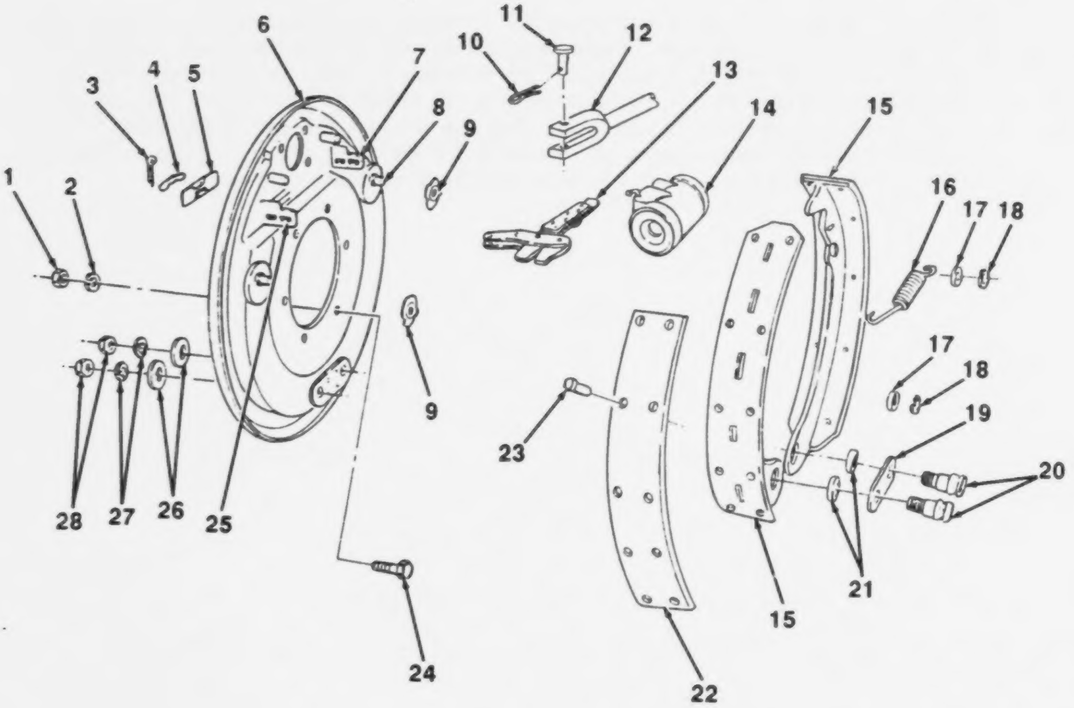
a. REMOVAL

WARNING

DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious illness or death to personnel.

4-27. BRAKESHOE MAINTENANCE (M514) (Con't).

1. Position a C-clamp over ends of wheel cylinder (14) to retain cups and pistons in cylinder. Remove brakeshoe return spring (16).
2. Remove two nuts (28), lockwashers (27), and flatwashers (26) securing anchor pins (20) to backing plate (6). Remove two anchor pins and anchor plate (19). Remove anchor pin bushings (21). Discard lockwashers.
3. Remove two C-washers (18) and flatwashers (17) securing brakeshoes (15) to adjusting cam pins (8). Remove two brakeshoes and flatwashers (9) from adjusting cam pins.
4. Remove cotter pin (10), straight pin (11), and disconnect handbrake cable clevis (12) from toggle link (13). Discard cotter pin.
5. Remove cotter pin (3), spring (4), and guard (5) from toggle link (13). Pull toggle link toward rear until free of front slide guide (25) then pull outward and forward out of rear slide guide (7). Discard cotter pin.
6. Remove wheel cylinder (14) (para 4-30).
7. Remove six nuts (1), lockwashers (2), and screws (24) securing backing plate (6) to suspension arm. Remove backing plate. Discard lockwashers.



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4-27. BRAKESHOE MAINTENANCE (M514) (Con't).

b. REPAIR

WARNING

DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious illness or death to personnel.

1. Measure thickness of linings (22). Thickness should be at least ⅛ in. (3.2 mm). If thickness is not at least ⅛ in. (3.2 mm), replace both linings as follows:

WARNING

Do not grind rivet heads off of brakeshoes when removing linings. Asbestos dust from linings is hazardous to your health.

(a) Remove 10 rivets (23) and lining (22) from brakeshoe (15). Repeat for other brakeshoe. Discard rivets.

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F–130°F (38°C–59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

(b) Clean brakeshoes (15) with dry cleaning solvent and dry thoroughly. With linings removed, inspect brakeshoes for cracks, corrosion, deformation, or other damage. Replace if damaged.

(c) Install new lining (22) on brakeshoe (15) with 10 new rivets (23). Repeat for other brakeshoe.

2. Inspect anchor pins and bushings for damage. Install anchor pin inside bushing. Anchor pin should slide smoothly inside bushing.

3. Inspect all other parts for cracks, breaks, corrosion, or other damage. Replace all damaged parts.

c. INSTALLATION

1. Install backing plate (6) on suspension arm with six screws (24), new lockwashers (2), and nuts (1).
2. Install wheel cylinder (14) (para 4-30). Position a C-clamp over ends of wheel cylinder to retain cups and pistons in cylinder.
3. Install toggle link (13) through rear slide guide (7) and front slide guides (25).
4. Install spring (4) and guard (5) on toggle link (13) with new cotter pin (3).

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4-27. BRAKESHOE MAINTENANCE (M514) (Con't).

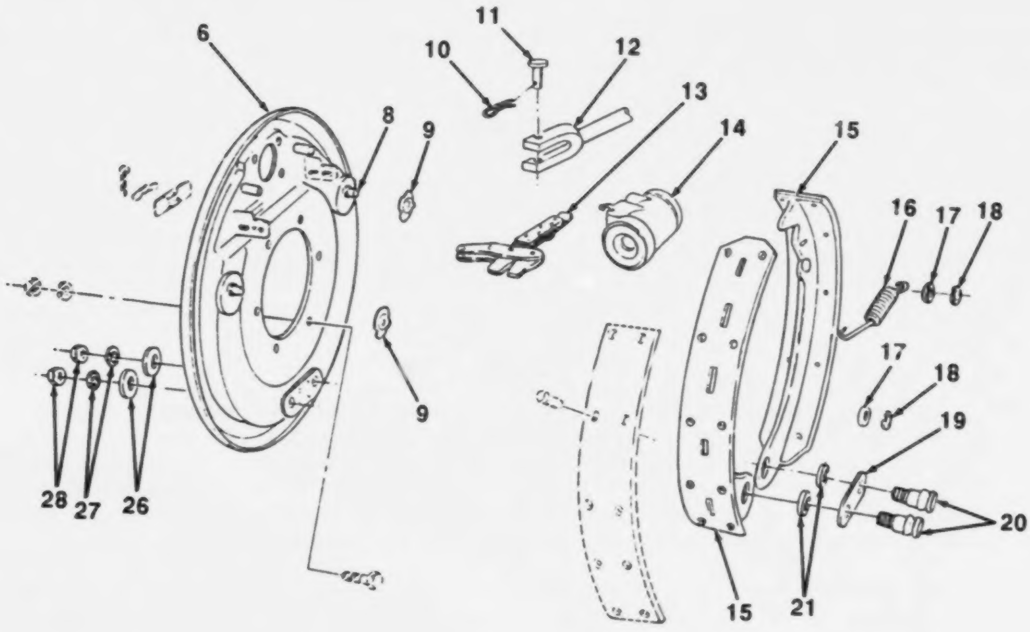
5. Connect handbrake cable clevis (12) to toggle link (13) with straight pin (11) and new cotter pin (10).

6. Install two flatwashers (9), brakeshoes (15), flatwashers (17), and C-washers (18) on adjusting cam pins (8).

7. Install two anchor pin bushings (21) on backing plate (6).

8. Install anchor plate (19) and two anchor pins (20) with two flatwashers (26), new lockwashers (27), and nuts (28).

9. Install brakeshoe return spring (16). Remove C-clamp from wheel cylinder (14).



FOLLOW-ON TASKS:

- Install hub and brakedrum (para 4-41).
- Install wheel (para 4-40).
- Bleed brakes (para 4-26).
- Adjust brakes (para 4-24).

TA505010

4-28. BRAKESHOE MAINTENANCE (M390C).

This Task Covers:

a. Removal
b. Repair
c. Installation

Initial Setup:

Equipment Conditions:

- Hub and brakedrum removed (para 4-42).

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set

Materials/Parts:

- Dry cleaning solvent (Item 7, Appendix E)
- One cotter pin
- Two linings
- Two lockwashers
- Twenty-four rivets

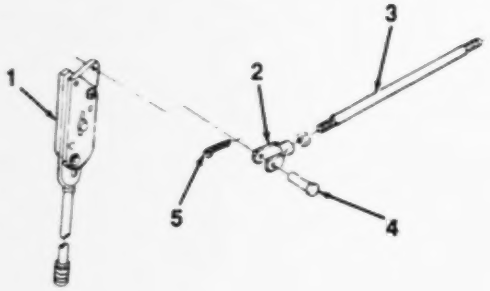
Personnel Required: Two

a. REMOVAL

WARNING

DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious illness or death to personnel.

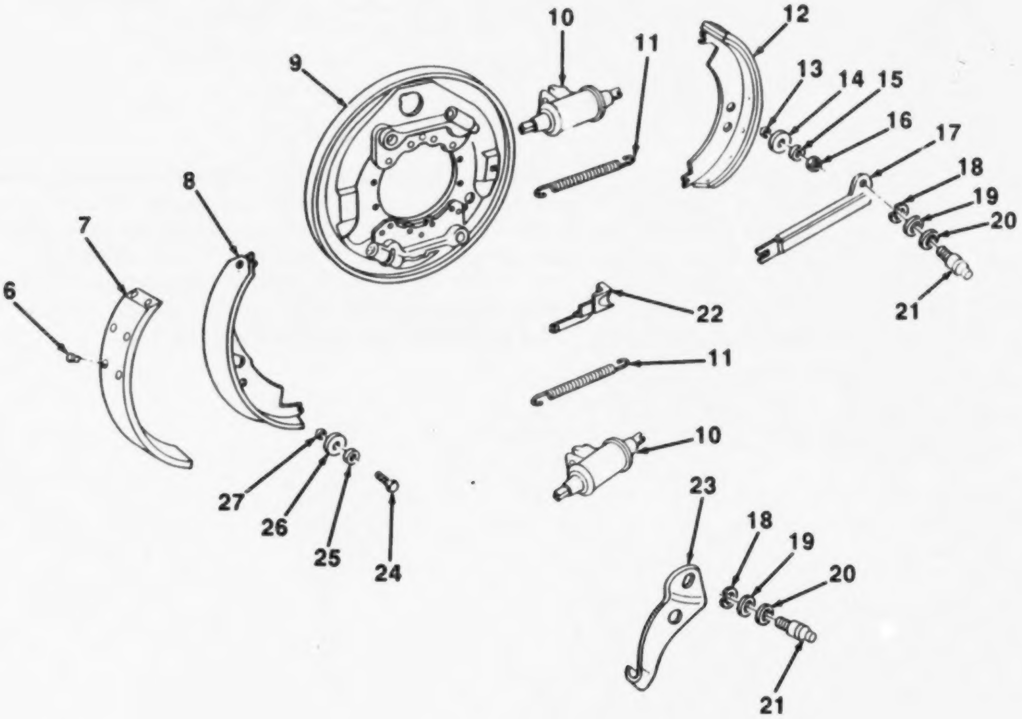
1. Remove cotter pin (5), straight pin (4), and disconnect clevis (2) on front end of rod (3) from handbrake lever (1). Discard cotter pin.



TA505011

4-28. BRAKESHOE MAINTENANCE (M390C) (Con't).

2. Position a C-clamp over ends of each wheel cylinder (10) to retain cups and pistons in cylinder. Remove two return springs (11).
3. Remove two slotted washers (20), flatwashers (19), and spring washers (18) from pins (21) on upper ends of both front and rear brakeshoes (12 and 8). Remove brake lever (23), ramp (22), and link (17) from pins.
4. Remove nut (16), lockwasher (15), flatwasher (14), and spacer (13) securing front brakeshoe (12) to backing plate (9). Remove front brakeshoe. Discard lockwasher.
5. Remove screw (24), lockwasher (25), flatwasher (26), and spacer (27) securing rear brakeshoe (8) to backing plate (9). Remove rear brakeshoe. Discard lockwasher.
6. If damaged, remove wheel cylinders (10) (para 4-31).



TA505012

4-28. BRAKESHOE MAINTENANCE (M390C) (Con't).

b. REPAIR

WARNING

DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious illness or death to personnel.

1. Measure thickness of linings (7). Thickness should be at least ⅛ in. (3.2 mm). If thickness is not at least ⅛ in. (3.2 mm), replace both linings as follows:

WARNING

Do not grind rivet heads off of brakeshoes when removing linings. Asbestos dust from linings is hazardous to your health.

(a) Remove 12 rivets (6) and lining (7) from brakeshoe (8 or 12). Repeat for other brakeshoe. Discard rivets.

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-130°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

(b) Clean brake shoes (8 and 12) with dry cleaning solvent and dry thoroughly. With linings removed, inspect brakeshoes for cracks, corrosion, deformation, or other damage. Replace if damaged.

(c) Install new lining (7) on brakeshoe (8 or 12) with 12 new rivets (6). Repeat for other brakeshoe.

2. Inspect all other parts for cracks, breaks, corrosion, or other damage. Replace all damaged parts.

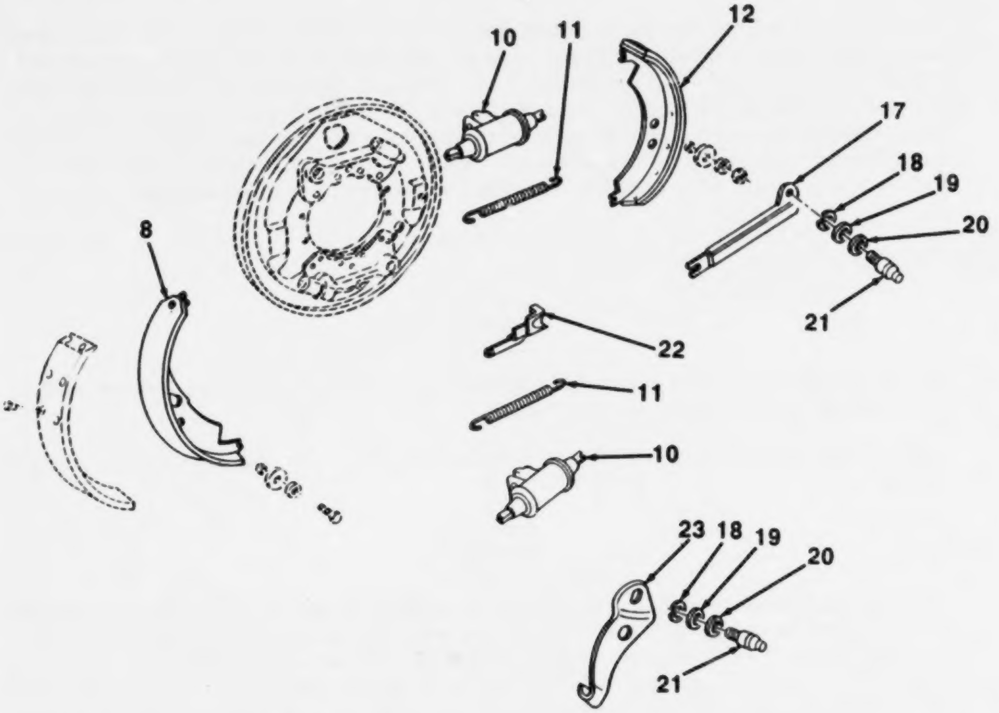
c. INSTALLATION

1. If removed, install wheel cylinders (10) (para 4-31). Position a C-clamp over ends of each wheel cylinder to retain cups and pistons in cylinder.
2. Install rear brakeshoe (8) on backing plate (9) with spacer (27), flatwasher (26), new lockwasher (25), and screw (24).
3. Install front brakeshoe (12) on backing plate (9) with spacer (13), flatwasher (14), new lockwasher (15), and nut (16).

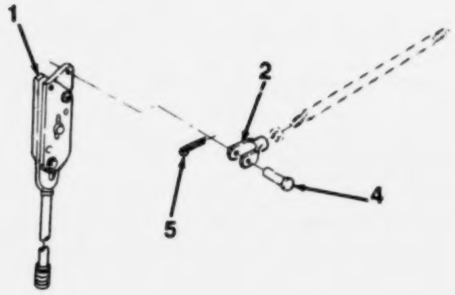
4-28. BRAKESHOE MAINTENANCE (M390C) (Con't).

4. Install brake lever (23), ramp (22), and link (17) on pins (21) on upper ends of both front and rear brakeshoes (8 and 12) with two spring washers (18), flatwashers (19), and slotted washers (20).

5. Install two return springs (11). Remove C-clamp from wheel cylinders (10).



6. Connect clevis (2) to handbrake lever (1) with straight pin (4) and new cotter pin (5).



FOLLOW-ON TASKS:

- Install hub and brakedrum (para 4-42).
- Install wheel (para 4-40).
- Bleed brakes (para 4-26).
- Adjust brakes (para 4-25).

TA505013

4-29. MASTER CYLINDER REPLACEMENT.

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).

Tools/Test Equipment:

- General mechanic's tool kit
- Drain pan

Materials/Parts:

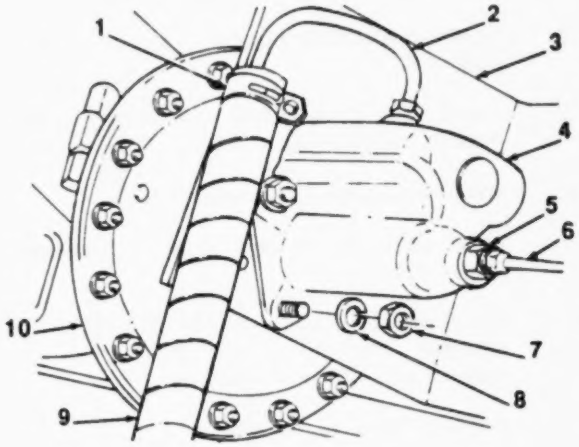
- Rags (Item 14, Appendix E)
- One gasket
- Three lockwashers

a. REMOVAL

NOTE

A suitable container should be used to catch any draining brake fluid. Ensure that all spills are cleaned up.

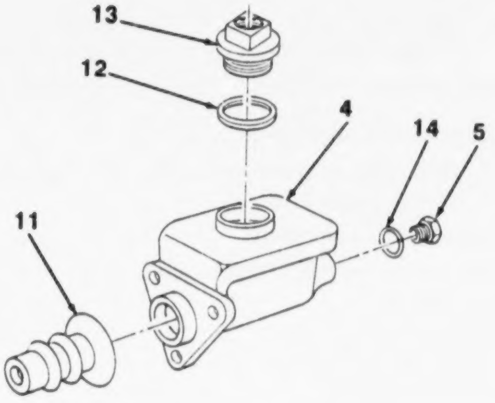
1. Place a suitable container under master cylinder (4).
2. Disconnect hose (6) from reducer (5) and allow brake fluid to drain from master cylinder (4).
3. Remove three nuts (7) and lockwashers (8) securing master cylinder (4) to airbrake chamber (10) and bracket (3). Remove master cylinder from bracket and airbrake chamber. Discard lockwashers.
4. Loosen clamp (1) and remove hose (9) from vent tube (2).



TA505014

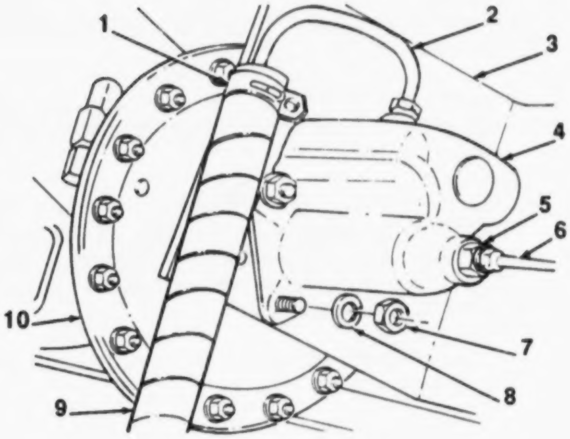
4-29. MASTER CYLINDER REPLACEMENT (Con't).

5. Remove reducer (5) and gasket (14) from master cylinder (4). Discard gasket.
6. Remove vent tube (2) from cap (13).
7. Remove cap (13) and spacer (12) from master cylinder (4).
8. Remove boot (11) from master cylinder (4).



b. INSTALLATION

1. Install boot (11) on master cylinder (4).
2. Install spacer (12) and cap (13) on master cylinder (4).
3. Install new gasket (14) and reducer (5) in master cylinder (4).
4. Install vent tube (2) in cap (13).
5. Install hose (9) on vent tube (2) and tighten clamp (1).
6. Install master cylinder (4) on bracket (3) and airbrake chamber (10) with three new lockwashers (8) and nuts (7).
7. Connect hose (6) to reducer (5).



FOLLOW-ON TASKS:

- Bleed brakes (para 4-26).

TA505015

4-30. WHEEL CYLINDER REPLACEMENT (M514).

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Brakeshoes removed (para 4-27).

Tools/Test Equipment:

- General mechanic's tool kit
- Drain pan

Materials/Parts:

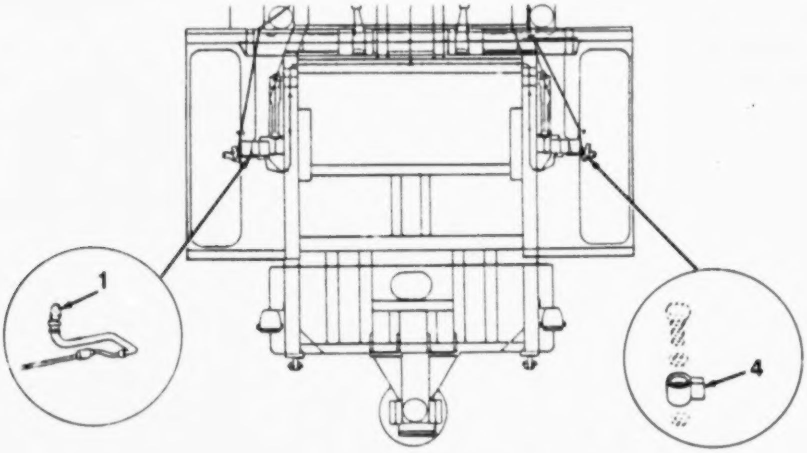
- Dry cleaning solvent (Item 7, Appendix E)
- Rags (Item 14, Appendix E)
- Three lockwashers

a. REMOVAL

NOTE

A suitable container should be used to catch any draining brake fluid. Ensure that all spills are cleaned up.

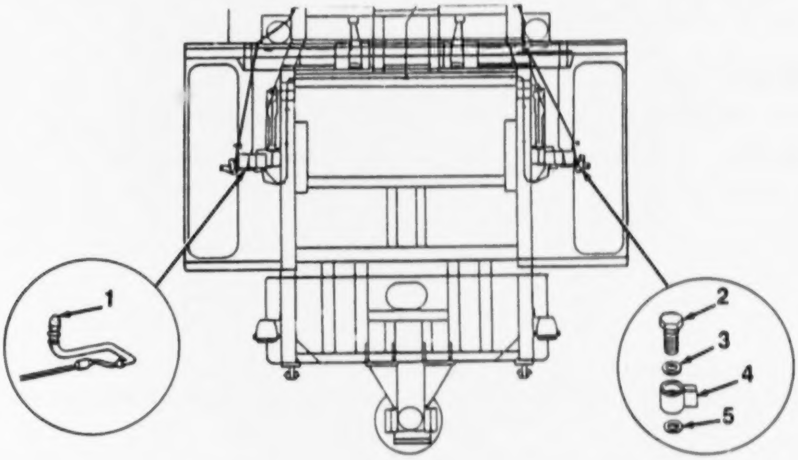
1. Place a suitable container under hose (1). Disconnect hose from tee (4) and allow brake fluid to drain into container.



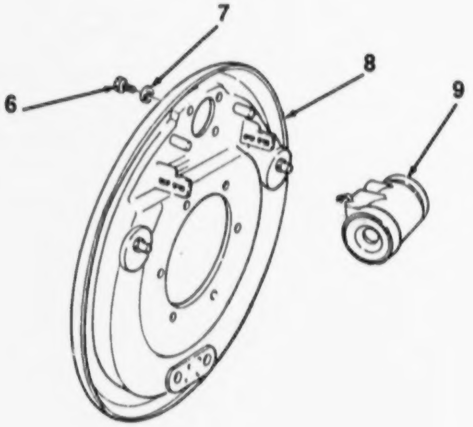
TA505016

4-30. WHEEL CYLINDER REPLACEMENT (M514) (Con't).

2. Remove fluid passage bolt (2), flatwasher (3), tee (4), and flatwasher (5) from wheel cylinder (9).



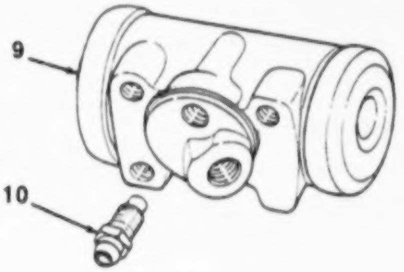
3. Remove three screws (6), lockwashers (7), and wheel cylinder (9) from backing plate (8). Discard lockwashers.



TA505017

4-30. WHEEL CYLINDER REPLACEMENT (M514) (Con't).

4. Remove bleeder valve (10) from wheel cylinder (9).



b. INSTALLATION

1. Install bleeder valve (10) in wheel cylinder (9).

2. Install wheel cylinder (9) on backing plate (8) with three new lockwashers (7) and screws (6).

3. Install fluid passage bolt (2), flatwasher (3), tee (4), and flatwasher (5) on wheel cylinder (9).

4. Connect hose (1) to tee (4).

FOLLOW-ON TASKS:

- Install brakeshoes (para 4-27).
- Bleed brakes (para 4-26).

TA505018

4-31. WHEEL CYLINDER REPLACEMENT (M390C).

This Task Covers:

a. Removal
b. Installation

Initial Setup:

Equipment Conditions:

- Brakeshoes removed (para 4-28).

Tools/Test Equipment:

- General mechanic's tool kit
- Drain pan

Materials/Parts:

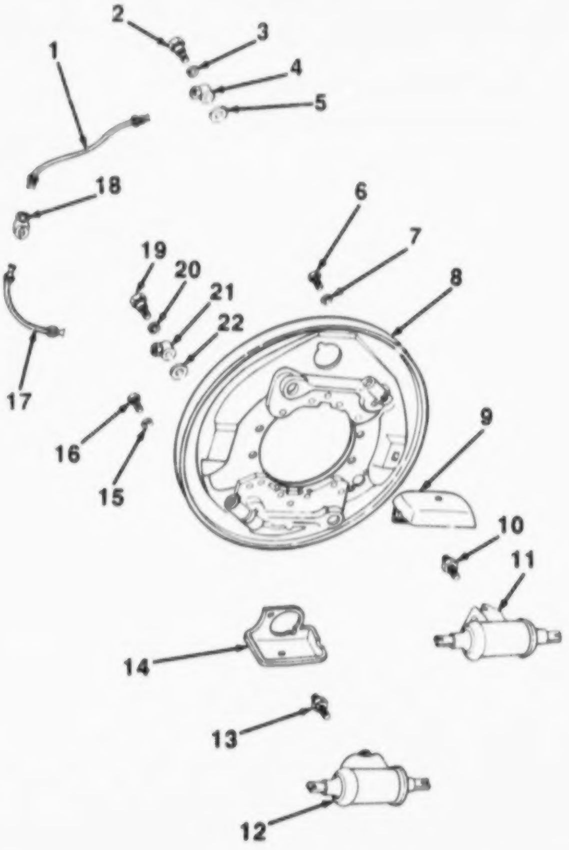
- Dry cleaning solvent (Item 7, Appendix E)
- Rags (Item 14, Appendix E)
- Four lockwashers

a. REMOVAL

NOTE

A suitable container should be used to catch any draining brake fluid. Ensure that all spills are cleaned up.

1. Place a suitable container under multiple connector (18) at back side of wheel cylinder (12). Unscrew fitting on multiple connector end of tube assembly (17). Allow brake fluid to drain into container.
2. Remove fluid passage bolt (19), spacer (20), tee (21), and shouldered washer (22) from wheel cylinder (12).
3. Remove tube assembly (17) from tee (21).
4. Remove two bolts (16) and lockwashers (15) securing wheel cylinder (12) to backing plate (8). Remove wheel cylinder and shield (14). Discard lockwashers.
5. Remove fluid passage bolt (2), spacer (3), tee (4), and shouldered washer (5) from wheel cylinder (11).
6. Remove two bolts (6) and lockwashers (7) securing wheel cylinder (11) to backing plate (8). Remove wheel cylinder and shield (9) from backing plate. Discard lockwashers.
7. Remove tube assembly (1) from tee (4).
8. Remove multiple connector (18) from tube assembly (1).
9. Remove bleeder valves (10 and 13) from wheel cylinders (11 and 12).



TA505019

4-31. WHEEL CYLINDER REPLACEMENT (M390C) (Con't).

b. INSTALLATION

1. Install bleeder valves (10 and 13) in wheel cylinders (11 and 12).
2. Install shield (9) and wheel cylinder (11) on backing plate (8) with two new lockwashers (7) and bolts (6).
3. Install shouldered washer (5), tee (4), spacer (3), and fluid passage bolt (2).
4. Install shield (14) and wheel cylinder (12) on backing plate (8) with two new lockwashers (15) and bolts (16).
5. Install shouldered washer (22), tee (21), spacer (20), and fluid passage bolt (19).
6. Connect two tube assemblies (17 and 1) to multiple connector (18). Tighten fittings.
7. Connect tube assembly (17) to tee (21) and tighten fitting.
8. Connect tube assembly (1) to tee (4) and tighten fitting.

FOLLOW-ON TASKS:

- install brakeshoes (para 4-28).
- Bleed brakes (para 4-26).

4-32. HYDRAULIC BRAKE SYSTEM LINES AND FITTINGS REPLACEMENT (M514).

This Task Covers:

a. Removal b. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).

Tools/Test Equipment:

- General mechanic's tool kit
- Drain pan

Materials/Parts:

- Rags (Item 14, Appendix E)
- Eight lockwashers

a. REMOVAL

NOTE

A suitable container should be used to catch any draining brake fluid. Ensure that all spills are cleaned up.

1. Place a suitable container under hose (12) at rear of backing plate. Disconnect hose from tee (6) and allow brake fluid to drain into container.

2. Remove hose (12) from elbow (11). Remove elbow from tube assembly (9).

3. Remove bolt (4), flatwasher (5), tee (6), and flatwasher (7) from wheel cylinder (8).

4. Place a suitable container under master cylinder (1). Disconnect hose (3) from reducer (2) and allow brake fluid to drain into container.

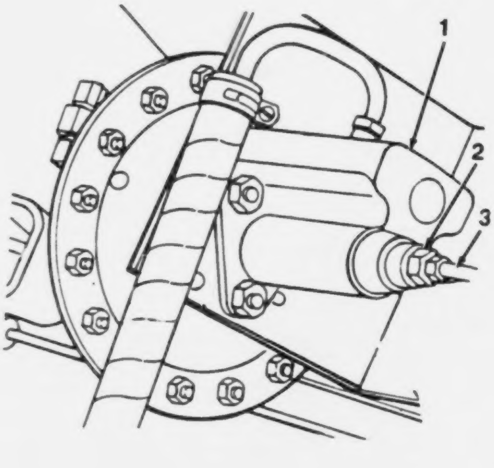
5. Remove screw (21), lockwasher (20), and clamp (19). Discard lockwasher.

6. Remove screw (18), lockwasher (17), and strap (16). Discard lockwasher.

7. Disconnect hose (3) from tee (10). Remove hose.

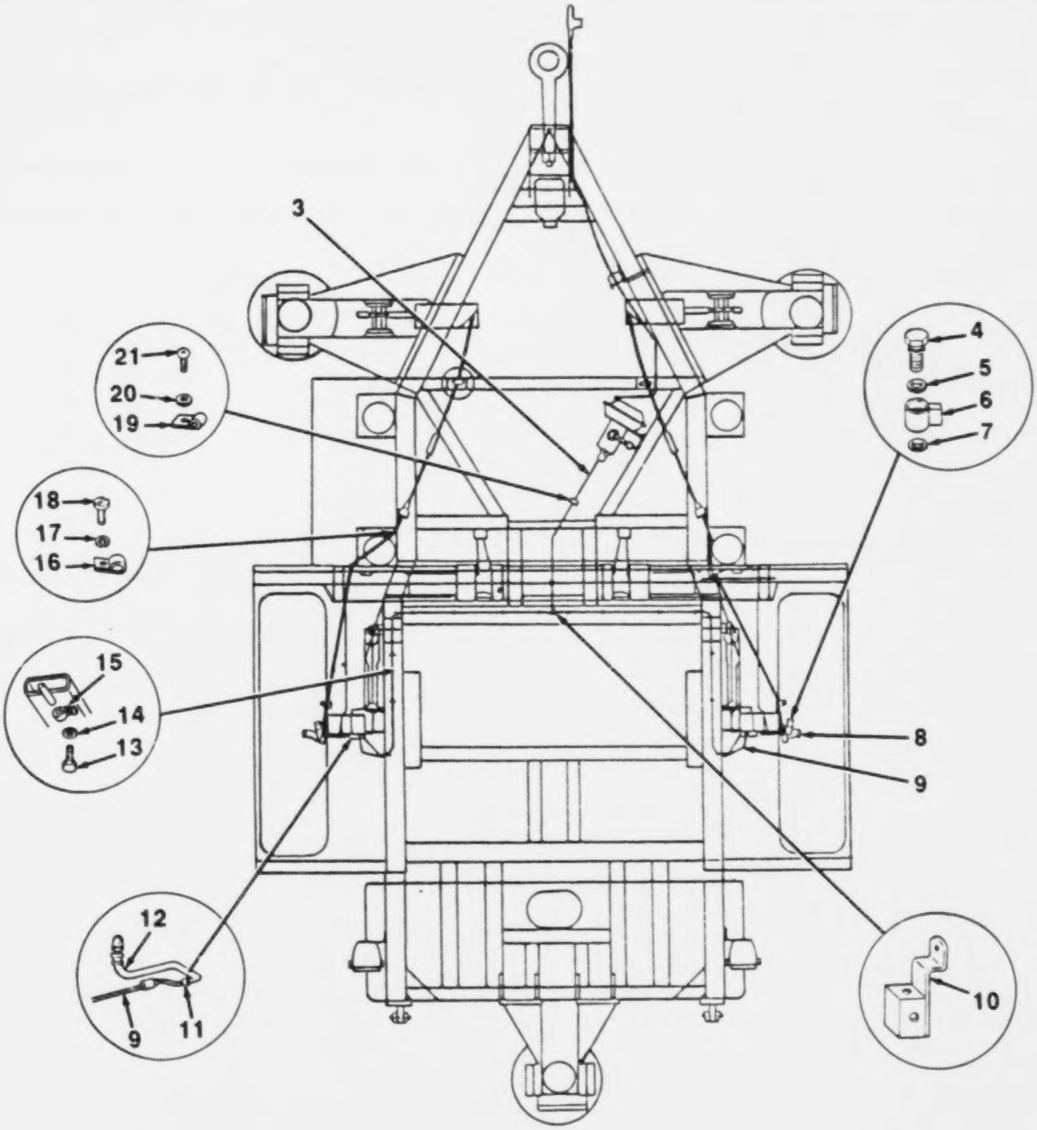
8. Disconnect tube assembly (9) from tee (10).

9. Remove six screws (13), lockwashers (14), and straps (15) securing tube assembly (9) to frame. Remove tube assembly. Discard lockwashers.



TA505020

4-32. HYDRAULIC BRAKE SYSTEM LINES AND FITTINGS REPLACEMENT (M514) (Con't).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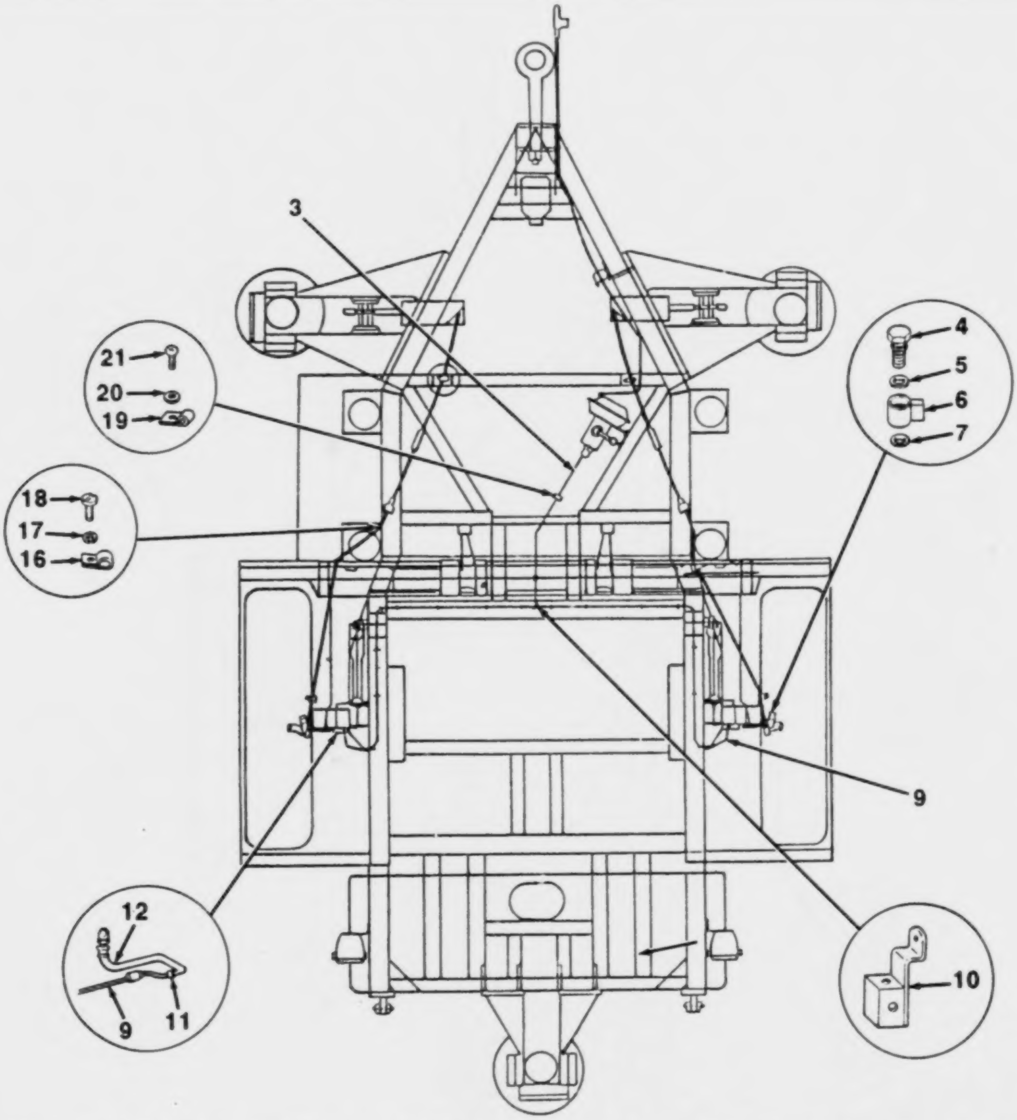
b. INSTALLATION

1. Position tube assembly (9) for installation. Secure tube assembly to frame with six screws (13), new lockwashers (14), and six straps (15).

2. Connect tube assembly (9) to tee (10).

TA505021

4-32. HYDRAULIC BRAKE SYSTEM LINES AND FITTINGS REPLACEMENT (M514) (Con't).

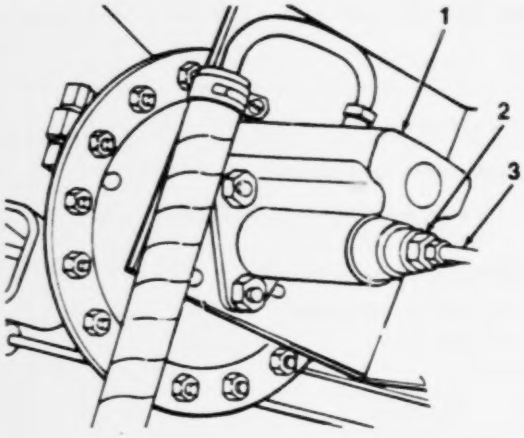


3. Position hose (3) for installation. Secure hose to frame with screw (18), new lockwasher (17), and strap (16).
4. Secure hose (3) to frame with screw (21), new lockwasher (20), and clamp (19).
5. Connect hose (3) to tee (10).

TA505022

4-32. HYDRAULIC BRAKE SYSTEM LINES AND FITTINGS REPLACEMENT (M514) (Con't).

6. Connect hose (3) to reducer (2) at master cylinder (1).
7. Install flatwasher (7), tee (6), flatwasher (5), and bolt (4).
8. Install elbow (11) to tube assembly (9).
9. Connect hose (12) to elbow (11) and tee (6).



FOLLOW-ON TASKS:

- Bleed brakes (para 4-26).

TA505023

4-33. HYDRAULIC BRAKE SYSTEM LINES AND FITTINGS REPLACEMENT (M390C).

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).

Tools/Test Equipment:

- General mechanic's tool kit
- Drain pan

Materials/Parts:

- Rags (Item 14, Appendix E)
- Three lockwashers

a. REMOVAL

NOTE

A suitable container should be used to catch any draining brake fluid. Ensure that all spills are cleaned up.

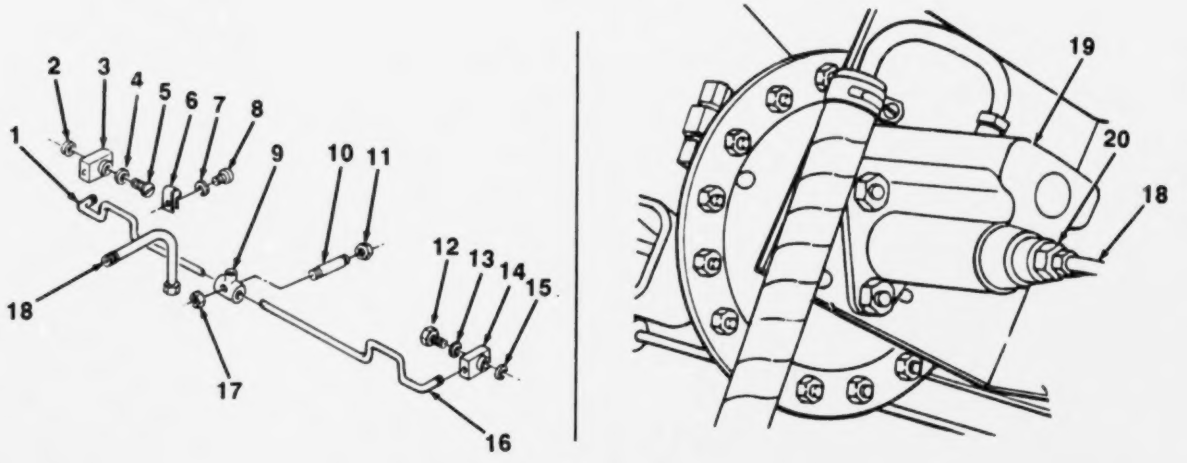
1. Place a suitable container under tube assembly (1) at rear of backing plate. Disconnect tube assembly from connector (3) and allow brake fluid to drain into container.

2. Place a suitable container under tube assembly (16) at rear of backing plate. Disconnect tube assembly from connector (14) and allow brake fluid to drain into container.

3. Place a suitable container under master cylinder (19). Disconnect hose (18) from reducer (20) and allow brake fluid to drain into container.

4. Disconnect hose (18) from connector (9) and remove hose.

5. Disconnect tube assembly (1) from connector (9).



TA505024

4-33. HYDRAULIC BRAKE SYSTEM LINES AND FITTINGS REPLACEMENT (M390C) (Con't).

6. Remove screw (8), lockwasher (7), and clamp (6) securing tube assembly (1) to axle. Remove tube assembly. Discard lockwasher.
7. Disconnect tube assembly (16) from connector (9).
8. Remove two screws (8), lockwashers (7), and clamps (6) securing tube assembly (16) to axle. Remove tube assembly. Discard lockwashers.
9. Remove bolt (5), washer (4), connector (3), and spacer (2) from connector on backing plate.
10. Remove bolt (12), washer (13), connector (14), and spacer (15) from connector on backing plate.
11. Remove nut (17) and connector (9) from stud (10).
12. Remove stud (10) and nut (11) from axle.

b. INSTALLATION

1. Install stud (10) through hole in axle. Secure stud to axle with nut (11).
2. Install connector (9) on stud (10) with nut (17).
3. Install connector (14) and spacer (15) on backing plate connector with washer (13) and bolt (12).
4. Install connector (3) and spacer (2) on backing plate connector with washer (4) and bolt (5).
5. Connect tube assembly (16) to connector (14) and connector (9).
6. Secure tube assembly (16) to axle with two clamps (6), new lockwashers (7), and screws (8).
7. Connect tube assembly (1) to connector (3) and connector (9).
8. Secure tube assembly (1) to axle with clamp (6), new lockwasher (7), and screw (8).
9. Connect hose (18) to connector (9).
10. Connect hose (18) to reducer (20) at master cylinder (19).

FOLLOW-ON TASKS:

- Bleed brakes (para 4-26).

4-34. AIRBRAKE SYSTEM MAINTENANCE (M514).

This Task Covers:

a. Removal
b. Intervehicular Air Hose Disassembly
c. Intervehicular Air Hose Assembly
d. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).

Tools/Test Equipment:

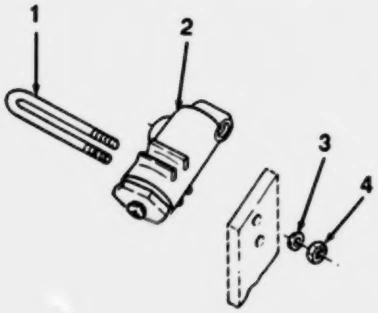
- General mechanic's tool kit

Materials/Parts:

- Antiseize tape (Item 16, Appendix E)
- One preformed packing
- Five lockwashers

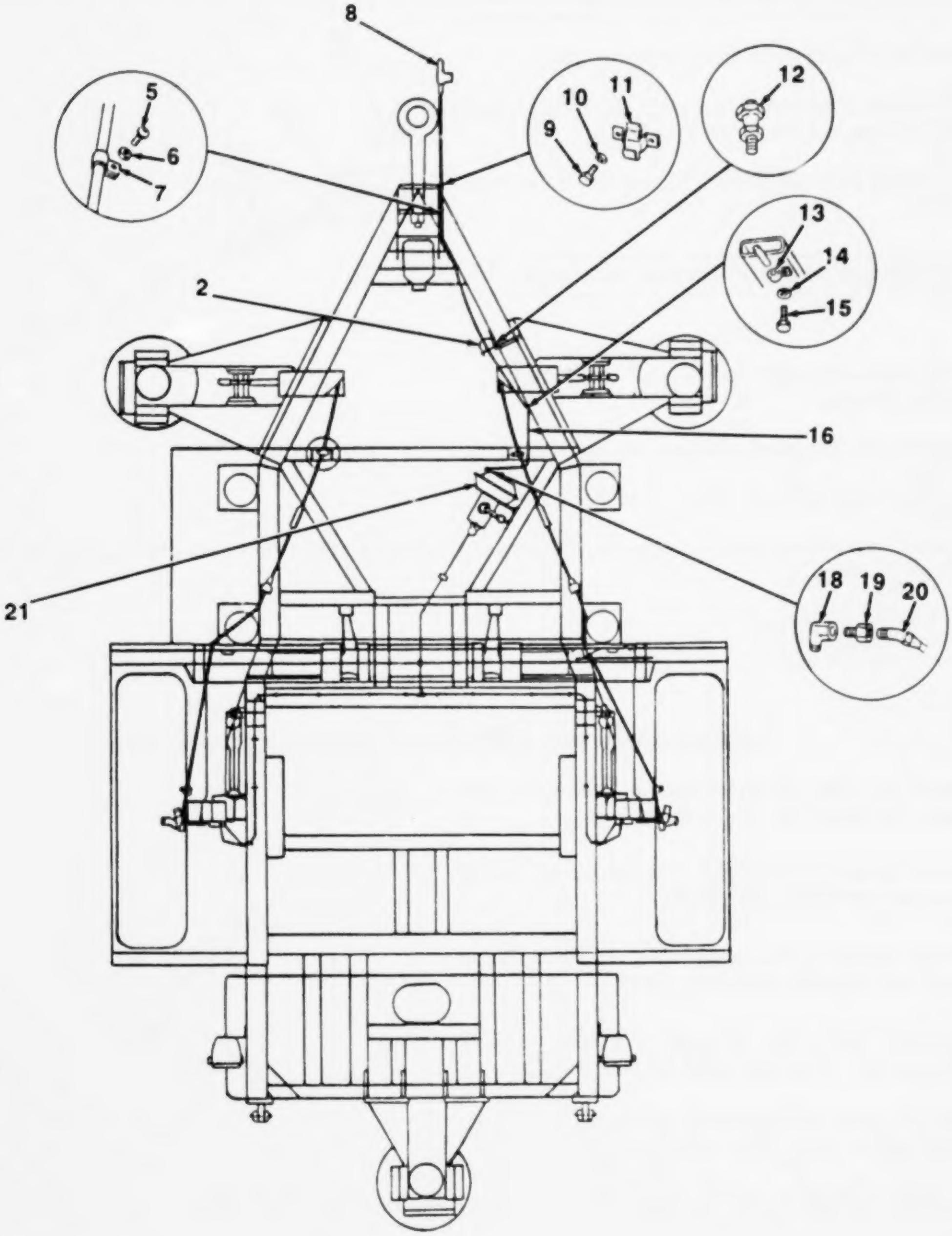
a. REMOVAL

1. Remove screw (5), lockwasher (6), and strap (7) securing intervehicular air hose assembly (8) to frame. Discard lockwasher.
2. Remove bolt (9), lockwasher (10), and adapter (11) from frame. Discard lockwasher.
3. Disconnect intervehicular air hose assembly (8) from air filter (2).
4. Disconnect tube (16) from air filter (2). Remove adapter (12) from tube.
5. Remove screw (15), lockwasher (14), and strap (13) securing tube (16) to frame. Discard lockwasher.
6. Disconnect tube (16) from elbow (20). Remove tube (16).
7. Remove elbow (20), coupling (19), and elbow (18) from airbrake chamber (21).
8. Remove master cylinder (para 4-29). Remove airbrake chamber (21) from frame.
9. Remove two nuts (4) and lockwashers (3) from U-bolt (1). Remove U-bolt and air filter (2) from frame. Discard lockwashers.



TA505025

4-34. AIRBRAKE SYSTEM MAINTENANCE (M514) (Con't).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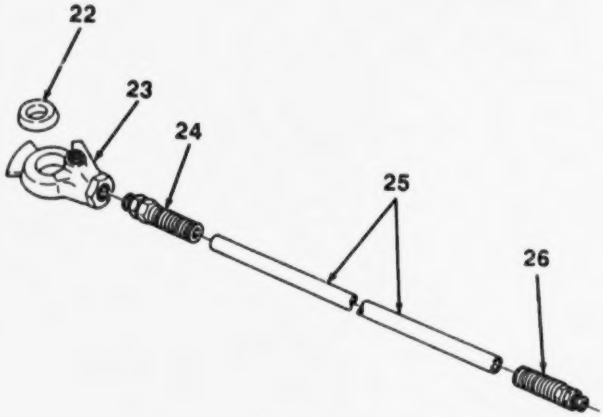
TA505026

4-34. AIRBRAKE SYSTEM MAINTENANCE (M514) (Con't).

b. INTERVEHICULAR AIR HOSE DISASSEMBLY



1. Remove body (23) from adapter (24).
2. Remove preformed packing (22) from body (23). Discard preformed packing.
3. Remove two adapters (24 and 26) from hose (25).

c. INTERVEHICULAR AIR HOSE ASSEMBLY

NOTE

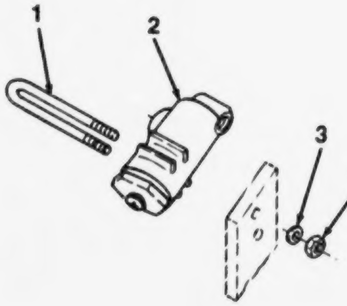
Apply antiseize tape to all male threads of air line fittings.

1. Install two adapters (24 and 26) on hose (25).
2. Install body (23) on adapter (24).
3. Install new preformed packing (22) in body (23). Ensure that preformed packing lies flat in body, with no twist or bulge.

d. INSTALLATION

NOTE

Apply antiseize tape to all male threads of air line fittings.

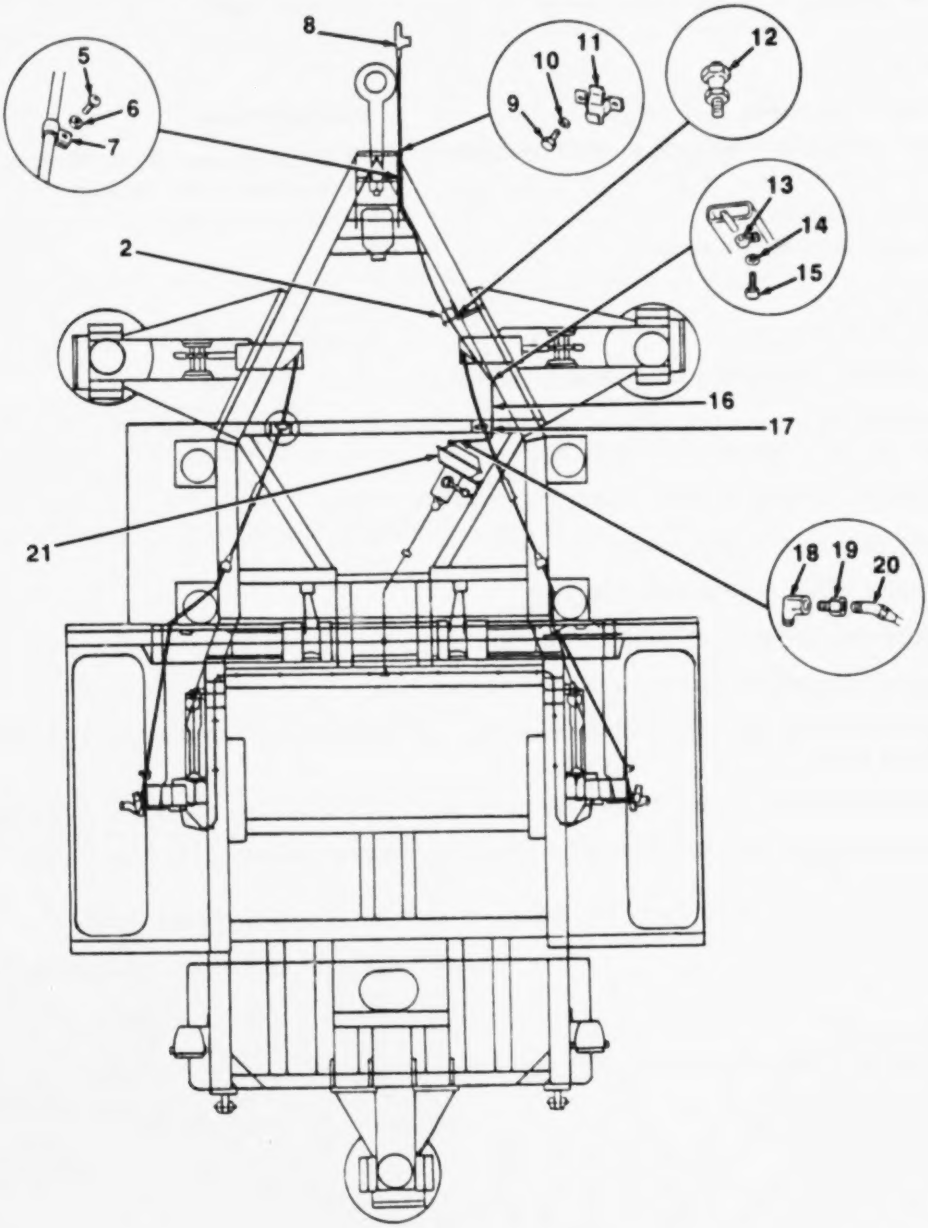


1. Install air filter (2) on frame with U-bolt (1), two new lockwashers (3), and nuts (4).
2. Install airbrake chamber (21) on frame. Install master cylinder (para 4-29).
3. Install elbow (18), coupling (19), and elbow (20) on airbrake chamber (21).
4. Thread tube (16) through grommet (17) in frame wall. Connect tube to elbow (20).
5. Secure tube (16) to frame with strap (13), new lockwasher (14), and screw (15).
6. Connect adapter (12) to tube (16). Connect adapter to air filter (2).
7. Connect intervehicular air hose assembly (8) to air filter (2).

TA505027

4-34. AIRBRAKE SYSTEM MAINTENANCE (M514) (Con't).

8. Install adapter (11) on frame with new lockwasher (10) and bolt (9).
9. Secure intervehicular air hose assembly (8) to frame with strap (7), new lockwasher (6), and screw (5).


8
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FOLLOW-ON TASKS:

- Perform air system lines and hose leakage test (para 4-23).

TA505028

4-35. AIRBRAKE SYSTEM MAINTENANCE (M390C).

This Task Covers:

a. Removal
b. Intervehicular Air Hose Disassembly
c. Intervehicular Air Hose Assembly
d. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).

Tools/Test Equipment:

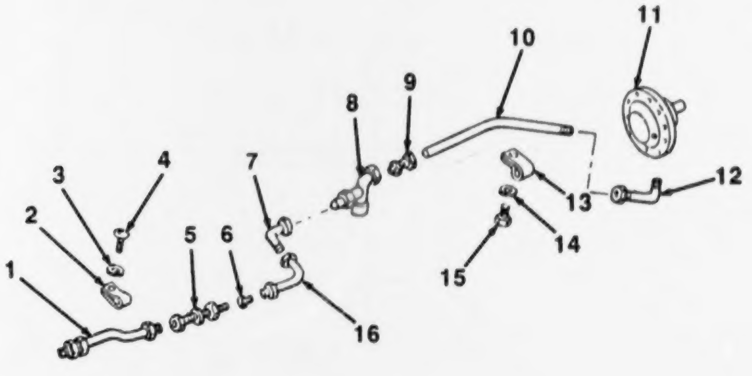
- General mechanic's tool kit

Materials/Parts:

- Antiseize tape (Item 16, Appendix E)
- One preformed packing
- Six lockwashers

a. REMOVAL

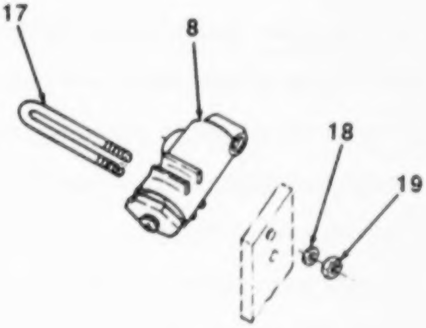
1. Disconnect intervehicular air hose assembly (1) from coupling (5).
2. Remove two screws (4), lockwashers (3), clamps (2), and remove intervehicular air hose assembly (1) from frame. Discard lockwashers.
3. Remove coupling (5) and adapter (6) from tube (16).
4. Remove tube (16) from elbow (7).
5. Remove elbow (7) from air filter (8).
6. Disconnect adapter (9) from air filter (8).
7. Disconnect elbow (12) from airbrake chamber (11).
8. Remove two screws (15), lockwashers (14), clamps (13), and remove tube (10) from frame. Discard lockwashers.
9. Remove adapter (9) and elbow (12) from tube (10).
10. Remove master cylinder (para 4-29). Remove airbrake chamber (11) from frame.



TA505029

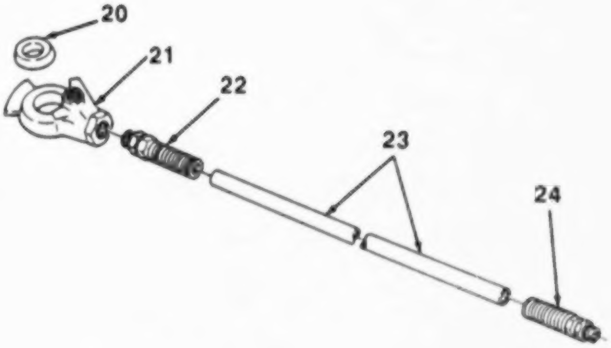
4-35. AIRBRAKE SYSTEM MAINTENANCE (M390C) (Con't).

11. Remove two nuts (19) and lockwashers (18) from U-bolt (17). Remove U-bolt and air filter (8) from frame. Discard lockwashers.



b. INTERVEHICULAR AIR HOSE DISASSEMBLY

1. Remove body (21) from adapter (22).
2. Remove preformed packing (20) from body (21). Discard preformed packing.
3. Remove two adapters (22 and 24) from hose (23).



c. INTERVEHICULAR AIR HOSE ASSEMBLY

NOTE

Apply antiseize tape to all male threads of air line fittings.

1. Install two adapters (22 and 24) on hose (23).
2. Install body (21) on adapter (22).
3. Install new preformed packing (20) in body (21). Ensure that preformed packing lies flat in body, with no twist or bulge.

d. INSTALLATION

NOTE

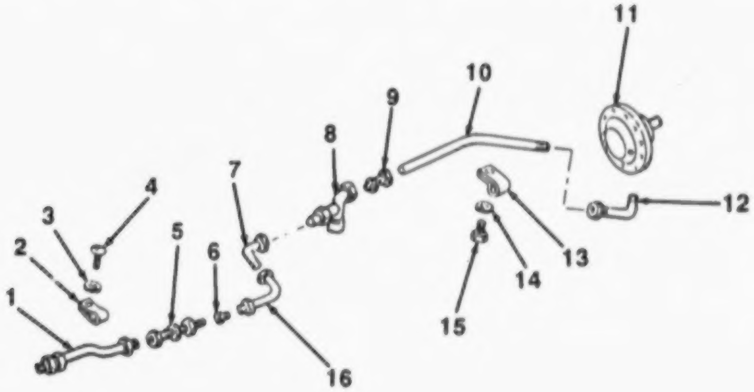
Apply antiseize tape to all male threads of air line fittings.

1. Install air filter (8) on frame with U-bolt (17), two new lockwashers (18), and nuts (19).

TA505030

4-35. AIRBRAKE SYSTEM MAINTENANCE (M390C) (Con't).

2. Install airbrake chamber (11) on frame. Install master cylinder (para 4-29).
3. Install adapter (9) and elbow (12) on tube (10).
4. Secure tube (10) to frame with two clamps (13), new lockwashers (14), and screws (15).
5. Connect elbow (12) to airbrake chamber (11).
6. Connect adapter (9) to air filter (8).
7. Connect elbow (7), adapter (6), and coupling (5) to tube (16).
8. Connect elbow (7) to air filter (8).
9. Install intervehicular air hose assembly (1) on frame with two clamps (2), new lockwashers (3), and screws (4).
10. Connect intervehicular air hose assembly (1) to coupling (5).



FOLLOW-ON TASKS:

- Perform air system lines and hose leakage test (para 4-23).

TA505031

4-36. AIR FILTER REPAIR.

This Task Covers:

a. Disassembly

b. Assembly

Initial Setup:

Equipment Conditions:

- Air filter removed (para 4-34 or 4-35).

Tools/Test Equipment:

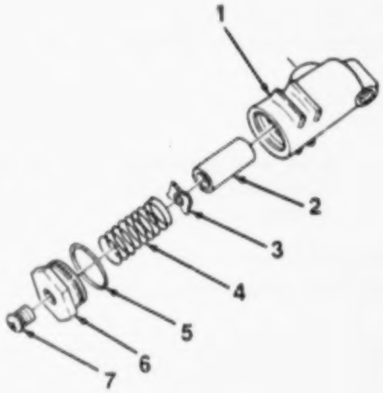
- General mechanic's tool kit

Materials/Parts:

- Dry cleaning solvent (Item 7, Appendix E)
- One gasket

a. DISASSEMBLY

1. Remove plug (7) from adapter (6).
2. Remove adapter (6) and gasket (5) from elbow body (1). Discard gasket.
3. Remove spring (4), spring washer (3), and filter element (2) from elbow body (1).



b. ASSEMBLY

1. Install filter element (2), spring washer (3), and spring (4) in elbow body (1).
2. Install new gasket (5) and adapter (6) on elbow body (1).
3. Install plug (7) in adapter (6).

FOLLOW-ON TASKS:

- Install air filter (para 4-34 or 4-35).
- Perform air system lines and hose leakage test (para 4-23).

TA505032

4-37. AIRBRAKE CHAMBER REPAIR.

This Task Covers:

- a. Disassembly
- b. Inspection
- c. Assembly

Initial Setup:

Equipment Conditions:

- Airbrake chamber removed (para 4-34 or 4-35).

Tools/Test Equipment:

- General mechanic's tool kit

Materials/Parts:

- One preformed packing
- Sixteen lockwashers

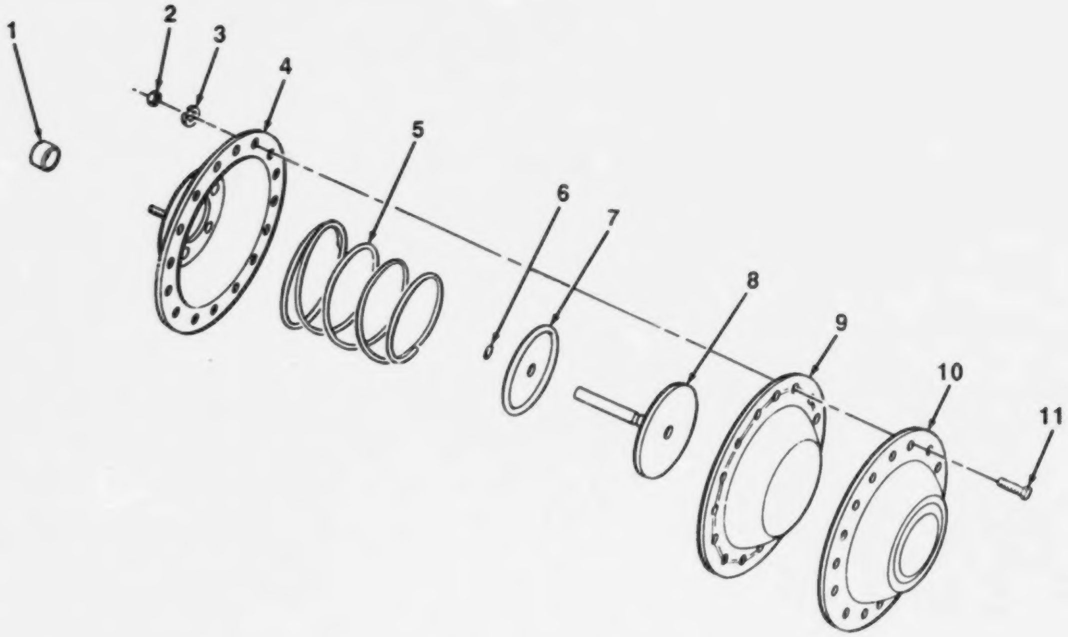
a. DISASSEMBLY

1. Remove collar (1) from airbrake chamber.

WARNING

Use caution when disassembling airbrake chamber. Spring (5) inside airbrake chamber is under tension. Failure to follow this warning may cause components inside airbrake chamber to fly apart, causing injury to personnel.

2. Place airbrake chamber in a vice. Remove 16 nuts (2), lockwashers (3), and bolts (11) securing cover (10) to body (4). Discard lockwashers.



TA505033

4-37. AIRBRAKE CHAMBER REPAIR (Con't).

3. Separate body (4), cover (10), and diaphragm (9). Remove spring (5) and rod (8).
4. Remove preformed packing (6) and spring retainer (7) from rod (8). Discard preformed packing.

b. INSPECTION

1. Inspect all parts for cracks, breaks, corrosion, or other damage.
2. Replace all damaged parts.

c. ASSEMBLY

WARNING

Use caution when assembling airbrake chamber. Spring (5) inside airbrake chamber will be placed under tension. Failure to follow this warning may cause components inside chamber to fly apart, causing injury to personnel.

1. Install spring retainer (7) and new preformed packing (6) on rod (8).
2. Assemble body (4), spring (5), rod (8), diaphragm (9), and cover (10). Secure in a vice.
3. Secure cover (10) to body (4) with 16 bolts (11), new lockwashers (3), and nuts (2).
4. Install collar (1) on airbrake chamber.

FOLLOW-ON TASKS:

- Install airbrake chamber (para 4-34 or 4-35).
- Perform air system lines and hose leakage test (para 4-23).

Section VIII. WHEELS, HUBS, AND BRAKEDRUMS MAINTENANCE

Paragraph Title	Page Number
Hub, Wheel Bearing, and Brakedrum Maintenance (M390C)	4-99
Hub, Wheel Bearing, and Brakedrum Maintenance (M514)	4-95
Suspension Arm Maintenance (M514)	4-84
Torsion Bar Adjustment (M514)	4-90
Wheel and Tire Maintenance	4-94

4-38. SUSPENSION ARM MAINTENANCE (M514).

This Task Covers:

a. Removal
b. Disassembly
c. Cleaning and Inspection
d. Assembly
e. Installation

Initial Setup:

Equipment Conditions:

- Hub and brakedrum removed (para 4-41).
- Brakeshoes removed (para 4-27).
- Shock absorber removed (para 4-57).

Tools/Test Equipment:

- General mechanic's tool kit
- Jackstand

Materials/Parts:

- Marking chalk (Item 5, Appendix E)
- Dry cleaning solvent (Item 7, Appendix E)
- Grease (Item 9, Appendix E)
- One expansion plug
- One gasket
- One locknut
- Five cotter pins
- Fifteen lockwashers

a. REMOVAL

1. Remove locknut (1), two flatwashers (2 and 3), and rubber bushing (4). Discard locknut.

2. Remove cotter pin (44), straight pin (45), and disconnect clevis (8) from suspension arm (9). Discard cotter pin.

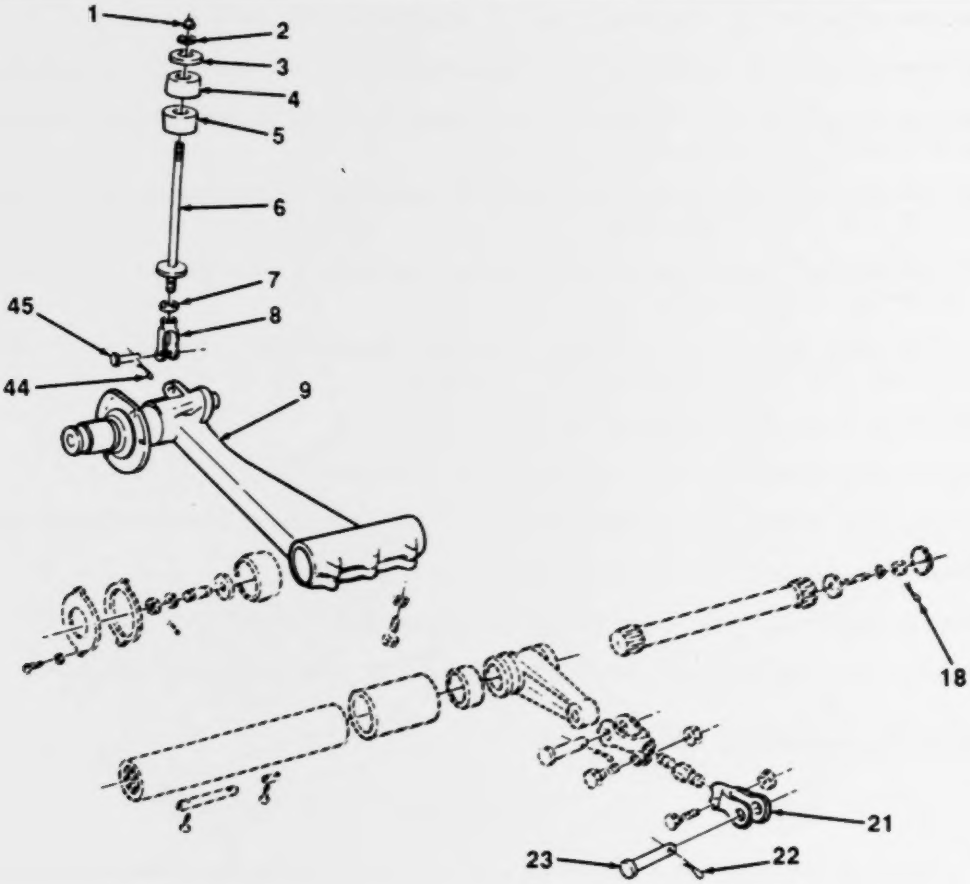
3. Remove rubber bushing (5) and shaft (6).

4. Loosen nut (7) and remove clevis (8) from shaft (6).

5. Remove cotter pin (22), straight pin (23), and disconnect clevis (21) from frame. Discard cotter pin.

6. Mark outer, center, and inner bearing supports (48, 51, and 52) and support bracket (46) for installation.

4-38. SUSPENSION ARM MAINTENANCE (M514) (Con't).



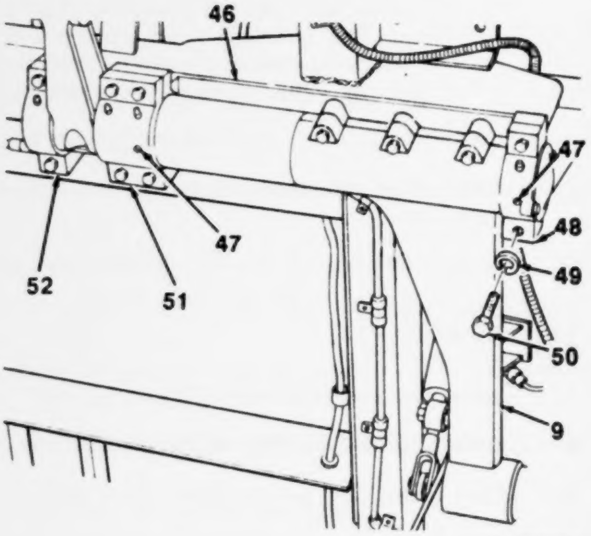
CAUTION

Before removing or disconnecting attaching parts, support rear end of suspension arm (9) to release pressure on torsion bar support.

7. Support suspension arm (9) with a suitable jackstand. Remove eight screws (50) and lockwashers (49) securing outer, center, and inner bearing supports (48, 51, and 52) to support bracket (46). Remove suspension arm and bearing supports from frame. Discard lockwashers.

b. DISASSEMBLY

1. Remove setscrews (47), outer bearing support (48), and center bearing support (51) from suspension arm (9).



TA505034

4-38. SUSPENSION ARM MAINTENANCE (M514) (Con't).

2. Remove cotter pin (26) and straight pin (27) from clevis (19). Discard cotter pin.
3. Remove two nuts (20) and screws (24). Disassemble clevis (19), clevis (21), and adjusting screw (25).
4. Remove two screws (43), lockwashers (42), cover (41), and gasket (40) from suspension arm (9). Discard lockwashers and gasket.
5. Remove cotter pin (38), nut (39), lockwasher (37), stud (36), and flatwasher (35) from torsion bar (12). Discard cotter pin and lockwasher.
6. Use a brass drift to drive outer end of torsion bar (12) until expansion plug (17) is driven out of support (11). Discard expansion plug.
7. Remove cotter pin (18), nut (16), lockwasher (15), flatwasher (13), and stud (14) from inner end of torsion bar (12). Discard cotter pin and lockwasher.
8. Remove support (11) from cover (29).
9. Use a brass drift to drive torsion bar (12) from cover (29).
10. Remove three screws (33) and lockwashers (10) from suspension arm (9). Discard lockwashers.
11. Remove four screws (31) from machine keys (30 and 32).
12. Remove sleeve bearings (28 and 34) from each end of cover (29).
13. Remove cover (29) and two machine keys (30 and 32) from suspension arm (9).

c. CLEANING AND INSPECTION

WARNING

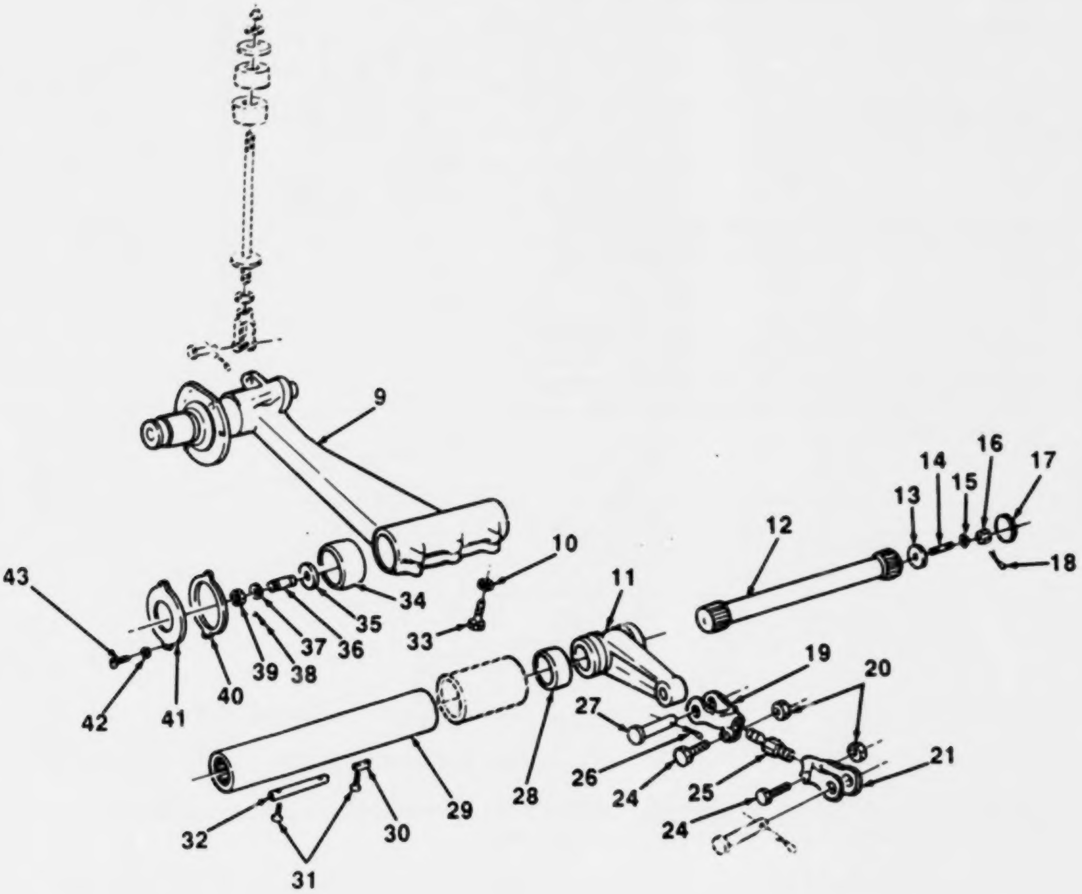
Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-130°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Clean all parts with dry cleaning solvent and dry thoroughly.
2. Check fit of sleeve bearings on cover. Sleeve bearings should fit smoothly without binding or excessive free play.
3. Inspect all parts for cracks, breaks, corrosion, or other damage. Replace all damaged parts.

d. ASSEMBLY

1. Install two machine keys (30 and 32) and cover (29) in suspension arm (9).
2. Install four screws (31) to secure machine keys (30 and 32).
3. Coat cover (29) with grease. Install sleeve bearings (28 and 34) on each end of cover.
4. Install three new lockwashers (10) and screws (33) in suspension arm (9).

4-38. SUSPENSION ARM MAINTENANCE (M514) (Con't).



5. Coat torsion bar (12) with grease. Use a brass drift to drive torsion bar into cover (29).
6. Install support (11) on cover (29).
7. Install stud (14), flatwasher (13), new lockwasher (15), nut (16), and new cotter pin (18) on inner end of torsion bar (12).
8. Install new expansion plug (17) in support (11).
9. Install stud (36), flatwasher (35), new lockwasher (37), nut (39), and new cotter pin (38) in outer end of torsion bar (12).
10. Install new gasket (40) and cover (41) on suspension arm (9) with two new lockwashers (42) and screws (43).
11. Assemble clevis (19), clevis (21), and adjusting screw (25). Install two screws (24) and nuts (20). Do not fully tighten nuts.
12. Install clevis (19) on support (11) with straight pin (27) and new cotter pin (26).

TA505035

4-38. SUSPENSION ARM MAINTENANCE (M514) (Con't).

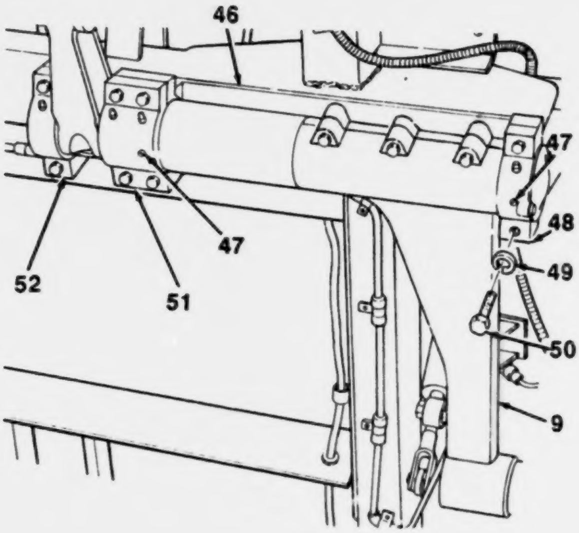
13. Install outer bearing support (48) and center bearing support (51) on suspension arm (9) with setscrews (47).

e. INSTALLATION

NOTE

Ensure that outer, center, and inner bearing supports (48, 51, and 52) are installed as marked.

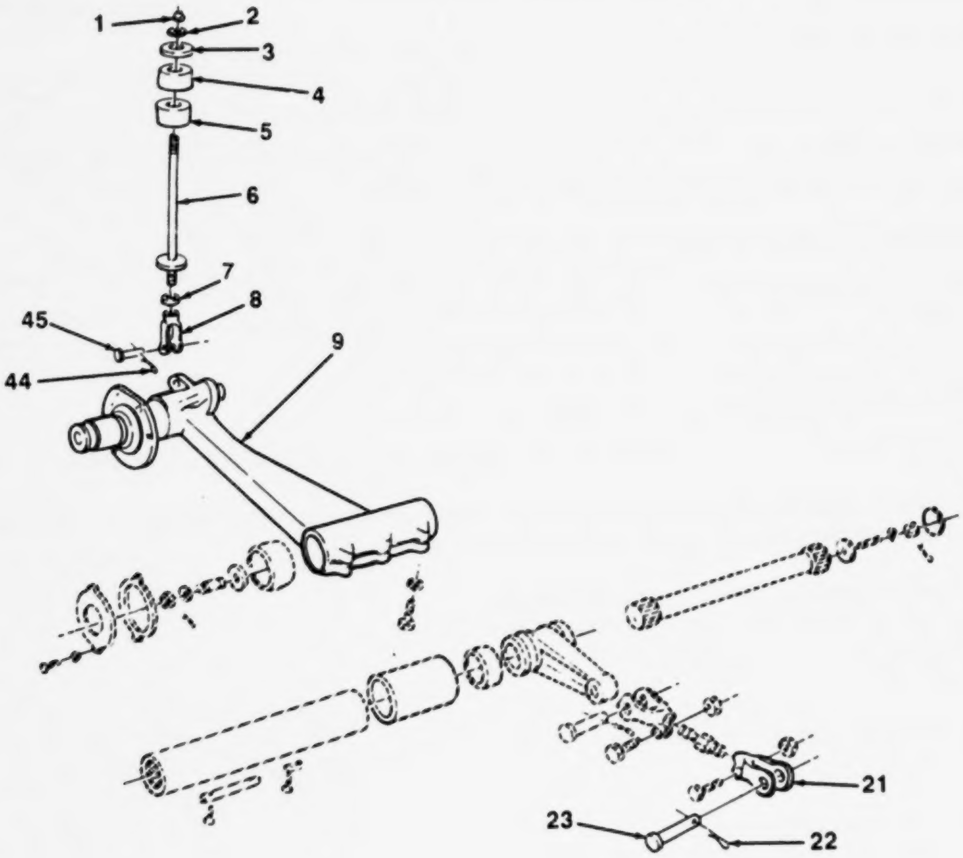
1. Position suspension arm (9) for installation. Install outer, center, and inner bearing supports (48, 51, and 52) on support bracket (46) with eight new lockwashers (49) and screws (50).



2. Connect clevis (21) to frame with straight pin (23) and new cotter pin (22).
3. Install nut (7) and clevis (8) on shaft (6). Tighten nut against clevis.
4. Install rubber bushing (5) on shaft (6). Position shaft for installation. Connect clevis (8) to suspension arm (9) with straight pin (45) and new cotter pin (44).
5. Install rubber bushing (4), two flatwashers (2 and 3), and new locknut (1) on shaft (6).

TA505036

4-38. SUSPENSION ARM MAINTENANCE (M514) (Con't).



FOLLOW-ON TASKS:

- Install shock absorber (para 4-57).
- Install brakeshoes (para 4-27).
- Install hub and brakedrum (para 4-41).
- Install wheel (para 4-40).
- Adjust torsion bars (para 4-39).
- Lubricate suspension arm (Chapter 3, Section I).

TA505037

4-39. TORSION BAR ADJUSTMENT (M514).

This Task Covers:

a. Minor Adjustment

b. Major Adjustment

Initial Setup:

Equipment Conditions:

- Trailer loaded and level (para 2-13).

Tools/Test Equipment:

- General mechanic's tool kit
- Floor jack

Materials/Parts (required for Major Adjustment only):

- One expansion plug
- One gasket
- Three cotter pins
- Four lockwashers

a. MINOR ADJUSTMENT

NOTE

Minor adjustments to compensate for slight variations in the strength of different torsion bars can be made using adjusting screw (3).

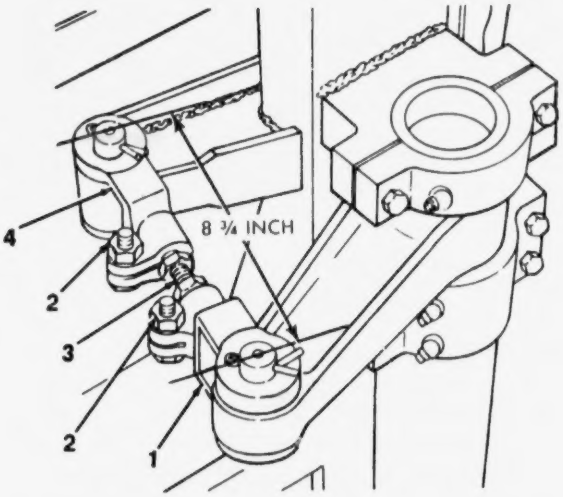
1. With trailer loaded and level, measure distance from top of frame to ground. Measurement should be 22 in. (55.9 cm). If height is not correct, adjust as follows:

   (a) Loosen nuts (2) on each clevis (1 and 4).

   (b) Turn adjusting screw (3) to adjust height. To raise trailer frame, clevis assembly must be shortened. To lower trailer frame, clevis assembly must be lengthened.

   (c) When trailer height is correct, tighten nuts (2) on each clevis (1 and 4).

2. If trailer height cannot be corrected by this adjustment, turn adjusting screw (3) until distance between clevis pin centers is at nominal length of 8¾ in. (22.2 cm). Perform MAJOR ADJUSTMENT (subpara b).



TA505038

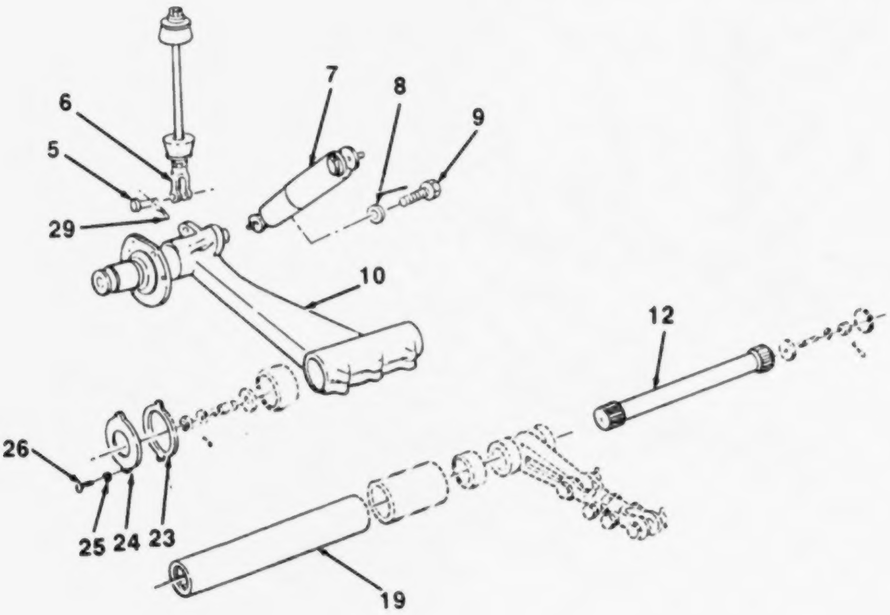
4-39. TORSION BAR ADJUSTMENT (M514) (Con't).

b. MAJOR ADJUSTMENT

NOTE

- **Major or initial adjustment of the relative position of the suspension arm (10), to give correct vehicle height, can be made by changing the relative positions of the support and cover (19) on the splines of the torsion bar (12).**
- **Before beginning, ensure that adjusting screw (3) has been adjusted to nominal length of 8¾ in. (22.2 cm) (subpara a).**

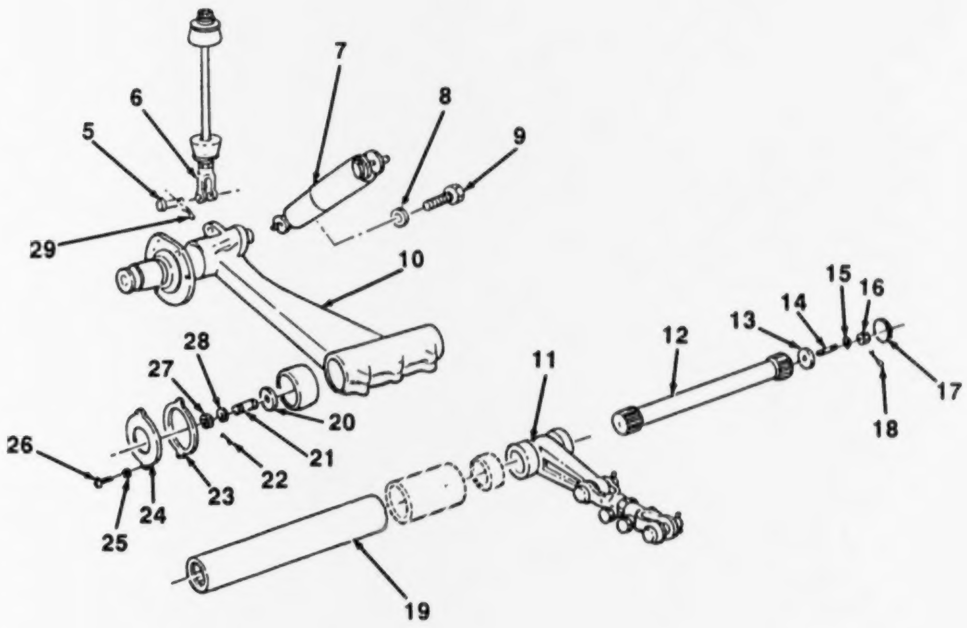
1. With trailer loaded and level, measure distance from top of frame to ground. Record the amount this measurement varies above or below the required 22 in. (55.9 cm).
2. Remove cotter pin (29), straight pin (5), and disconnect clevis (6) from suspension arm (10). Discard cotter pin.
3. Remove bolt (9), flatwasher (8), and disconnect shock absorber (7) from suspension arm (10).
4. Raise frame until wheel is about to leave ground and torsion has been relieved in torsion bar (12).
5. Remove two screws (26), lockwashers (25), cover (24), and gasket (23). Discard lockwashers and gasket.



TA505039

4-39. TORSION BAR ADJUSTMENT (M514) (Con't).

6. Remove cotter pin (22), nut (27), lockwasher (28), flatwasher (20), and stud (21) from outer end of torsion bar (12). Discard cotter pin and lockwasher.
7. Use a brass drift to drive torsion bar (12) until expansion plug (17) is driven out of support (11). Discard expansion plug.
8. Remove cotter pin (18), nut (16), lockwasher (15), and flatwasher (13) from stud (14) in inner end of torsion bar (12). Discard cotter pin and lockwasher.
9. Use a brass drift to drive inward on torsion bar (12) until splines on bar are out of splines on cover (19) and support (11).
10. Refer to amount frame was high or low as recorded in step 1.
    - (a) If frame was recorded low, carefully raise frame approximately the amount it was low until splines in cover (19) and support (11) are alined. Drive torsion bar (12) outward into support and cover until splines are centered.
    - (b) If frame was recorded high, carefully lower frame approximately the amount it was high until splines in support (11) and cover (19) are alined. Drive torsion bar (12) outward into support and cover until splines are centered.



TA505040

4-39. TORSION BAR ADJUSTMENT (M514) (Con't).

11. Lower frame until all weight of trailer is on wheels. Measure distance from top of frame to ground. If this distance is near enough to 22 in. (55.9 cm) that a minor adjustment will correct the error, complete this procedure then perform MINOR ADJUSTMENT (subpara a). If this distance is not near enough that a minor adjustment will correct the error, repeat step 10 until adjustment is correct.
12. Install flatwasher (13), new lockwasher (15), and nut (16) on inner stud (14). Secure with new cotter pin (18).
13. Install new expansion plug (17) in support (11).
14. Install stud (21) in torsion bar (12).
15. Install flatwasher (20), new lockwasher (28), and nut (27) on stud (21). Secure with new cotter pin (22).
16. Install new gasket (23) and cover (24) and with two new lockwashers (25) and screws (26).
17. Connect shock absorber (7) to suspension arm (10) with flatwasher (8) and bolt (9).
18. Connect clevis (6) to suspension arm (10) with straight pin (5) and new cotter pin (29).

4-40. WHEEL AND TIRE MAINTENANCE.

This Task Covers:

a. Removal
b. Repair
c. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).

References:

- TM 9-2610-200-24

Tools/Test Equipment:

- General mechanic's tool kit
- Floor jack
- Torque wrench

a. REMOVAL

1. Loosen six wheel stud nuts.
2. Raise wheel clear of ground.
3. Remove wheel stud nuts. Remove wheel.

b. REPAIR

Refer to TM 9-2610-200-24 for instructions on dismounting and mounting tire and tube from wheel, and for repairing tube.

c. INSTALLATION

1. Position wheel on studs.
2. Install six wheel stud nuts and tighten finger tight.
3. Lower trailer to ground.
4. Tighten six wheel stud nuts to 400-500 lb.-ft. (542-678 N•m).

4-41. HUB, WHEEL BEARING, AND BRAKEDRUM MAINTENANCE (M514).

This Task Covers:

a. Disassembly
b. Cleaning and Inspection
c. Assembly and Adjustment

Initial Setup:

Equipment Conditions:

- Wheel removed (para 4-40).

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set
- Brakedrum lathe
- Inside micrometer, with extension
- Wheel bearing adjusting nut wrench

References:

- TM 9-214

Materials/Parts:

- Dry cleaning solvent (Item 7, Appendix E)
- Grease (Item 9, Appendix E)
- Rags (Item 14, Appendix E)
- One gasket
- One keywasher
- One oil seal
- One retaining ring
- Six lockwashers

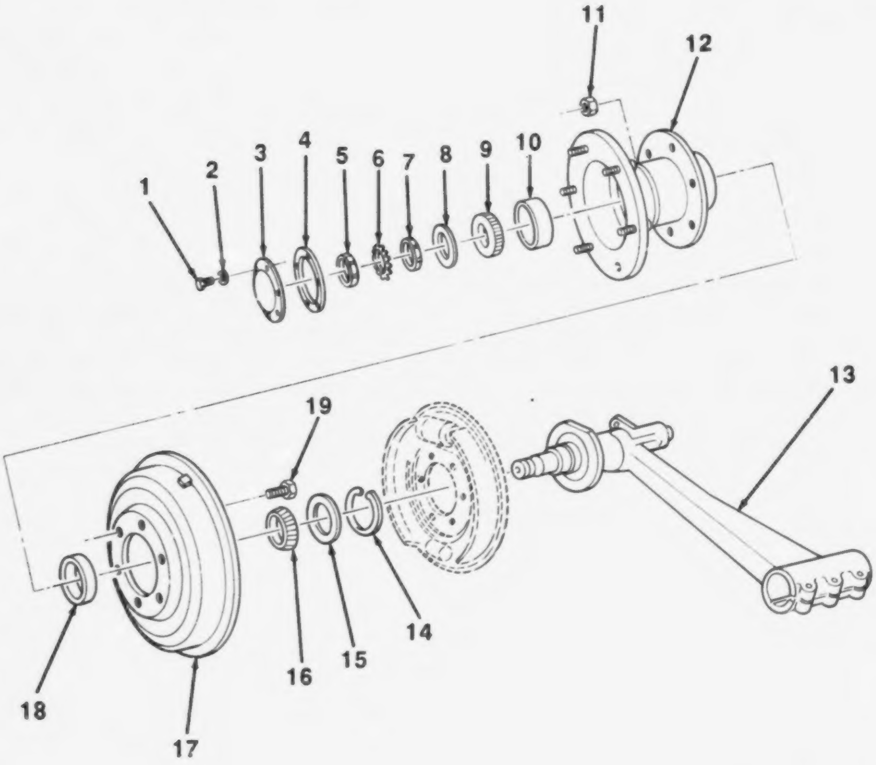
a. DISASSEMBLY

WARNING

DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious illness or death to personnel.

4-41. HUB, WHEEL BEARING, AND BRAKEDRUM MAINTENANCE (M514) (Con't).

1. Remove six screws (1), lockwashers (2), cover (3), and gasket (4). Discard lockwashers and gasket.
2. Remove nut (5), keywasher (6), nut (7), and keywasher (8). Discard keywasher.
3. Remove hub (12) and brakedrum (17) assembly from suspension arm (13).
4. Remove outer bearing (9) from hub (12).
5. Remove retaining ring (14), oil seal (15), and inner bearing (16) from hub (12). Discard retaining ring and oil seal.
6. Remove six nuts (11) and screws (19). Separate brakedrum (17) from hub (12).
7. Remove two bearing cups (10 and 18) from hub (12).



TA505041

4-41. HUB, WHEEL BEARING, AND BRAKEDRUM MAINTENANCE (M514) (Con't).

b. CLEANING AND INSPECTION

WARNING

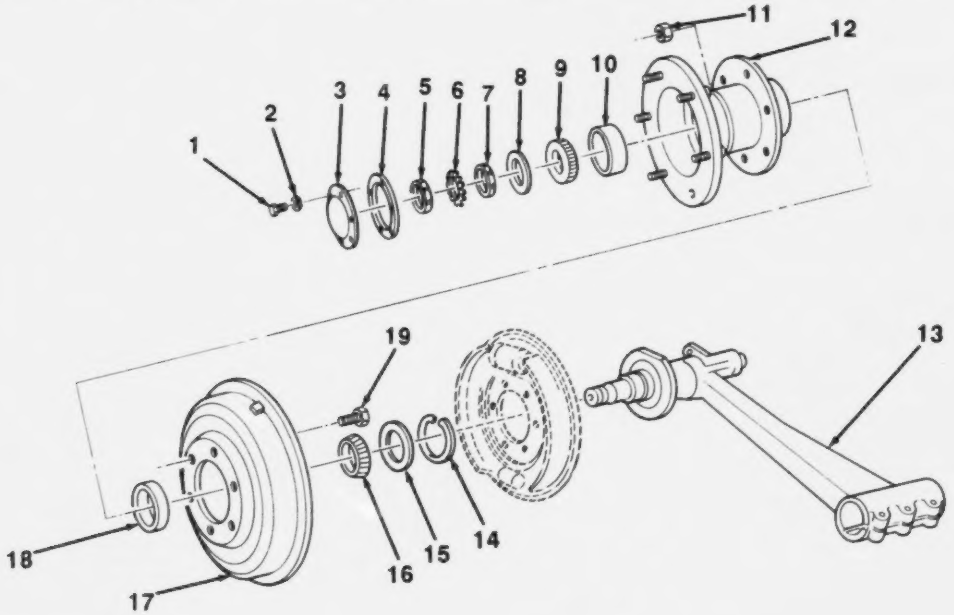
- DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious illness or death to personnel.
- Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F–130°F (38°C–59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Use dry cleaning solvent to remove grease and oil from all metal parts. Dry thoroughly.
2. Clean and inspect bearings and bearing cups in accordance with TM 9-214.
3. Inspect brakedrum and hub for cracks or other signs of damage.
4. Inspect braking surface of brakedrum for scoring or uneven wear.
5. Measure inside diameter of brakedrum. If diameter exceeds 13.20 in. (33.53 cm), replace brakedrum.

4-41. HUB, WHEEL BEARING, AND BRAKEDRUM MAINTENANCE (M514) (Con't).

c. ASSEMBLY AND ADJUSTMENT

1. Press bearing cups (10 and 18) into hub (12) until squarely seated on shoulders.
2. Install brakedrum (17) on hub (12) with six screws (19) and nuts (11).
3. Pack inner and outer bearings (16 and 9) with grease.
4. Install inner bearing (16) and new oil seal (15) in inner end of hub (12). Secure with new retaining ring (14).
5. Install hub (12) and brakedrum (17) assembly on suspension arm (13).
6. Install outer bearing (9), keywasher (8), and nut (7) with flat side in.
7. While rotating hub (12) and brakedrum (17), tighten nut (7) until a distinct drag is felt. Loosen nut until hub and brakedrum turn freely.
8. Install new keywasher (6) and nut (5) with flat side out. While rotating hub (12) and brakedrum (17), tighten nut until a distinct drag is felt. Loosen nut until hub and brakedrum turn freely. Bend tab on keywasher into groove on nut.
9. Pack hub (12) with grease.
10. Install new gasket (4) and cover (3) with six new lockwashers (2) and screws (1).



FOLLOW-ON TASKS:

- Install wheel (para 4-40).

TA505042

4-42. HUB, WHEEL BEARING, AND BRAKEDRUM MAINTENANCE (M390C).

This Task Covers:

a. Disassembly
b. Cleaning and Inspection
c. Assembly and Adjustment

Initial Setup:

Equipment Conditions:

- Wheel removed (para 4-40).

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set
- Brakedrum lathe
- Inside micrometer, with extension
- Wheel bearing adjusting nut wrench

References:

- TM 9-214

Materials/Parts:

- Dry cleaning solvent (Item 7, Appendix E)
- Grease (Item 9, Appendix E)
- Lubricating oil (Item 10, Appendix E)
- Rags (Item 14, Appendix E)
- One gasket
- One keywasher
- One oil seal
- Three lockwashers

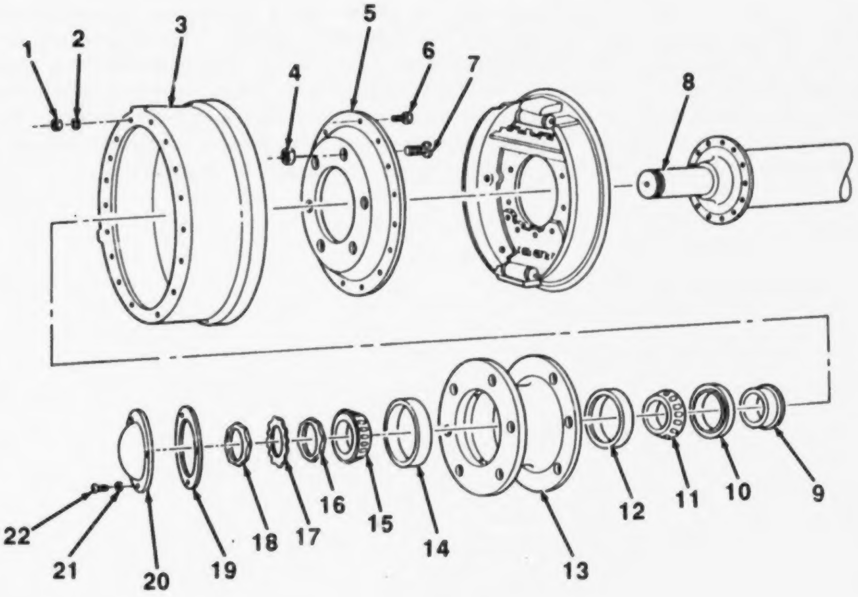
a. DISASSEMBLY

WARNING

DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious illness or death to personnel.

4-42. HUB, WHEEL BEARING, AND BRAKEDRUM MAINTENANCE (M390C) (Con't).

1. Remove three screws (22), lockwashers (21), cap (20) and gasket (19). Discard lockwashers and gasket.
2. Straighten tab on keywasher (17) bent over outer bearing nut (18). Remove outer bearing nut.
3. Straighten tab on keywasher (17) bent over inner bearing nut (16). Remove and discard keywasher. Remove inner bearing nut.
4. Move hub (13) and brakedrum (3) assembly on spindle (8) to loosen outer bearing (15). Remove outer bearing.
5. Carefully remove hub (13) and brakedrum (3) from spindle (8), taking care to prevent inner bearing (11) from falling out.
6. Remove inner bearing (11), oil seal (10), and spacer (9) from either hub (13) or spindle (8). Discard oil seal.
7. Remove six nuts (4) and bolts (7). Separate brakedrum (3) and hub (13).
8. Remove 16 nuts (1), flatwashers (2), and bolts (6) and separate back (5) from brakedrum (3).
9. Remove bearing cups (12 and 14) from hub (13).



TA505043

4-42. HUB, WHEEL BEARING, AND BRAKEDRUM MAINTENANCE (M390C) (Con't).

b. CLEANING AND INSPECTION

WARNING

- **DO NOT handle brakeshoes, brakedrums, or other brake components unless area has been properly cleaned. There may be asbestos dust on these components which can be dangerous if you touch it or breathe it. Wear an approved filter mask and gloves. Never use compressed air or a dry brush to clean brake components. Dust may be removed using an industrial-type vacuum cleaner. Clean dust or mud away from brake components with water and a wet, soft brush or cloth. Failure to follow this warning may result in serious illness or death to personnel.**
- **Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-130°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.**

1. Use dry cleaning solvent to remove grease and oil from all metal parts. Rinse and dry thoroughly.
2. Clean and inspect bearings and bearing cups in accordance with TM 9-214.
3. Inspect brakedrum and hub for cracks or other signs of damage.
4. Inspect braking surface of brakedrum for scoring or uneven wear.
5. Measure inside diameter of brakedrum. If diameter exceeds 15.25 in. (38.74 cm), replace brakedrum.

c. ASSEMBLY AND ADJUSTMENT

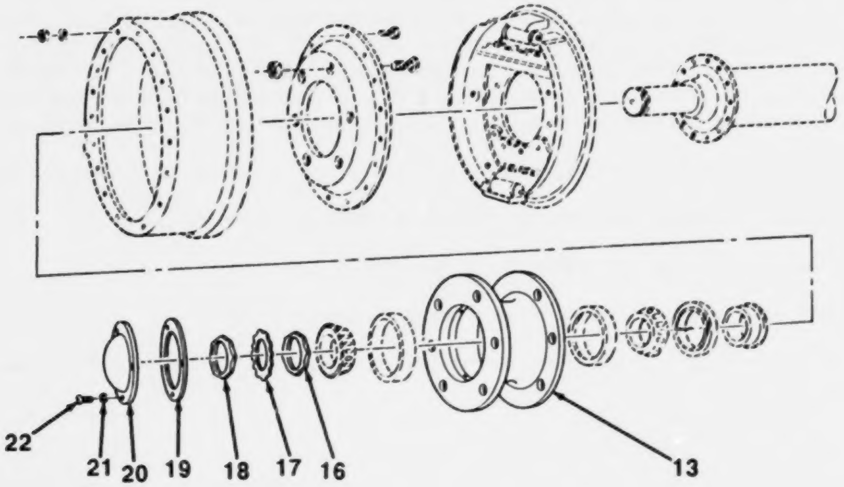
1. Install bearing cups (12 and 14) in hub (13). Ensure that bearing cups are squarely seated.
2. Install back (5) on brakedrum (3) with 16 bolts (6), flatwashers (2), and nuts (1).
3. Install brakedrum (3) on hub (13) with six bolts (7) and nuts (4).
4. Pack inner and outer bearings (11 and 15) with grease.
5. Apply a thin coat of lubricating oil to inside of hub (13) and outside of spindle (8).
6. Install spacer (9) and new oil seal (10) on spindle (8). Flange on spacer should face inside of trailer.
7. Install inner bearing (11) on spindle (8) with larger diameter facing inside of trailer. Inner bearing may be tapped gently with a hammer and wooden block, keeping it square with spindle to force it into position.
8. Install hub (13) and brakedrum (3) on spindle (8).
9. Install outer bearing (15) with large diameter facing outward.
10. Install inner bearing nut (16). While rotating hub (13) and brakedrum (3), tighten inner bearing nut until a distinct drag is felt. Loosen inner bearing nut until hub and brakedrum turn freely.
11. Install new keywasher (17) and outer bearing nut (18). While rotating hub (13) and brakedrum (3), tighten outer bearing nut until a distinct drag is felt. Loosen outer bearing nut until hub and brakedrum turn freely.

4-42. HUB, WHEEL BEARING, AND BRAKEDRUM MAINTENANCE (M390C) (Con't).

12. Bend one tab on keywasher (17) against flat on inner bearing nut (16). Bend one tab on keywasher against flat on outer bearing nut (18).

13. Pack hub (13) with grease.

14. Install new gasket (19) and cap (20) with three new lockwashers (21) and screws (22).



FOLLOW-ON TASKS:

- Install wheel (para 4-40).

TA505044

Section IX. FRAME AND TOWING ATTACHMENTS MAINTENANCE

Paragraph Title	Page Number
Front Leveling Jack Support Assembly Maintenance (M514)	4-122
Gravity Pin Assembly Replacement (M514)	4-108
Ground Bar Clamp Replacement (M514)	4-107
Ladder Latch Replacement (M390C)	4-109
Leveling Jack Replacement (M390C)	4-127
Leveling Jack Maintenance (M514)	4-116
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Retractable Support Assembly Replacement (M390C)	4-114
Retractable Support Assembly Maintenance (M514)	4-110
Safety Chain Replacement (M390C)	4-106
Shackle Replacement	4-105
Tie-down Pad Assembly Maintenance (M514)	4-126

4-43. LUNETTE REPLACEMENT.

This Task Covers:

a. Removal

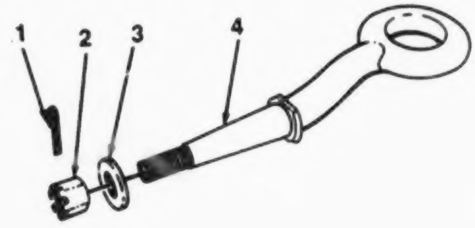
b. Installation

Initial Setup:

Tools/Test Equipment:	**Materials/Parts:**
• General mechanic's tool kit	• One cotter pin

a. REMOVAL

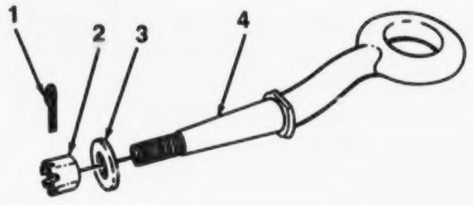
1. Remove cotter pin (1) from nut (2) and lunette (4). Discard cotter pin.
2. Remove nut (2) and flatwasher (3). Remove lunette (4) from frame.



TA505045

4-43. LUNETTE REPLACEMENT (Con't).

b. INSTALLATION



NOTE

On M514, lunette can be installed in either of two positions. Determine correct position before installing.

1. Install lunette (4) through frame.

2. Install flatwasher (3), nut (2), and new cotter pin (1).

TA505046

4-44. SHACKLE REPLACEMENT.

This Task Covers:

a. Removal b. Installation

Initial Setup:

Materials/Parts:

- One cotter pin

Tools/Test Equipment:

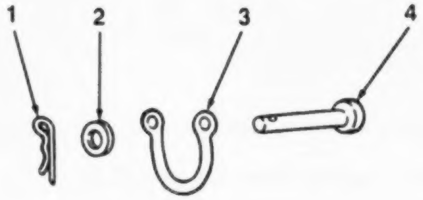
- General mechanic's tool kit

a. REMOVAL

NOTE

M514 has two shackles at rear of trailer. M390C has four shackles; two at front and two at rear of trailer. Removal procedures are the same.

1. Remove cotter pin (1) from straight pin (4). Discard cotter pin.
2. Remove straight pin (4), flatwasher (2), and shackle (3) from frame.



b. INSTALLATION

NOTE

M514 has two shackles at rear of trailer. M390C has four shackles; two at front and two at rear of trailer. Installation procedures are the same.

1. Install shackle (3) on frame with straight pin (4).
2. Secure flatwasher (2) and straight pin (4) with new cotter pin (1).

TA505047

4-45. SAFETY CHAIN REPLACEMENT (M390C).

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Tools/Test Equipment:

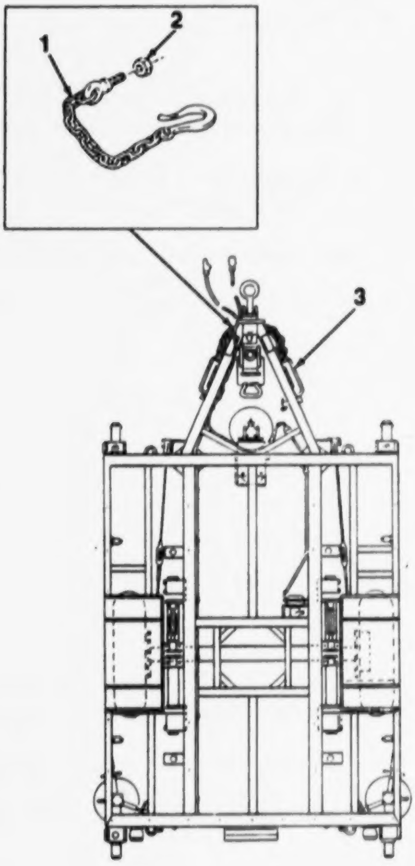
- General mechanic's tool kit

a. REMOVAL

1. Unhook safety chain (1) from rail (3).
2. Remove nut (2) and safety chain (1) from frame.

b. INSTALLATION

1. Install safety chain (1) on frame with nut (2).
2. Stow safety chain (1) on rail (3).



TA505048

4-46. GROUND BAR CLAMP REPLACEMENT (M514).

This Task Covers:

a. Removal
b. Inspection
c. Installation

Initial Setup:

Tools/Test Equipment:

- General mechanic's tool kit

Materials/Parts:

- One lockwasher

a. REMOVAL

Remove wingnut (1), lockwasher (2), and flatwasher (3) from bolt (4). Discard lockwasher.

b. INSPECTION

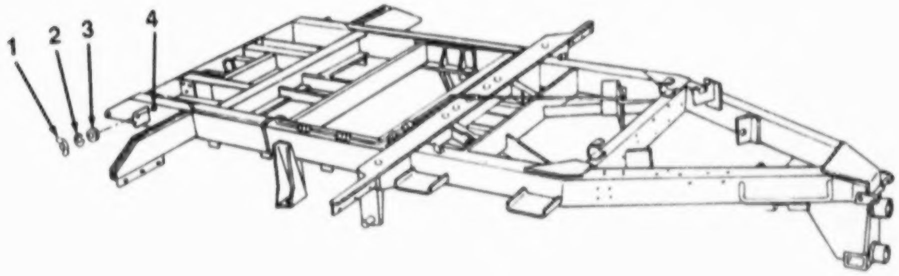
NOTE

Bolt is welded to frame.

1. Inspect bolt for cracks, breaks, corrosion, stripped threads, or other damage.
2. If bolt is damaged, notify direct support maintenance.

c. INSTALLATION

Install flatwasher (3), new lockwasher (2), and wingnut (1) on bolt (4).



TA505049

4-47. GRAVITY PIN ASSEMBLY REPLACEMENT (M514).

This Task Covers:

a. Removal b. Installation

Initial Setup:

Tools/Test Equipment:

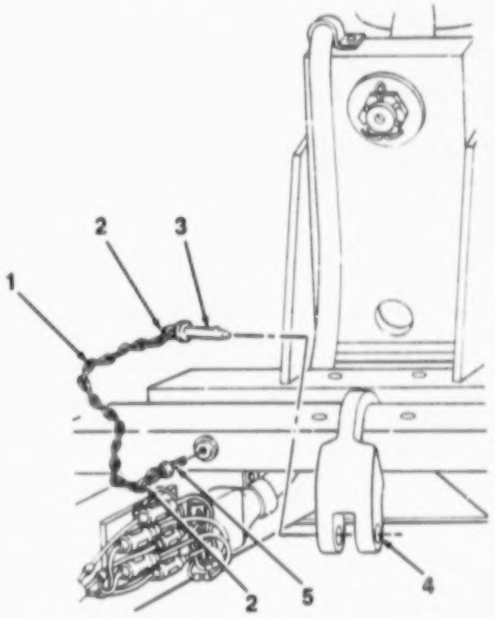
- General mechanic's tool kit

a. REMOVAL

1. Remove pin (3) from clevis (4).
2. Remove eyebolt (5) from frame. Remove gravity pin assembly from trailer.
3. Separate eyebolt (5), pin (3), chain (1), and two S-hooks (2).

b. INSTALLATION

1. Assemble eyebolt (5), pin (3), chain (1), and two S-hooks (2).
2. Install gravity pin assembly to frame with eyebolt (5).
3. Install pin (3) through clevis (4).



TA505050

4-48. LADDER LATCH REPLACEMENT (M390C).

This Task Covers:

a. Removal b. Installation

Initial Setup:

Tools/Test Equipment:

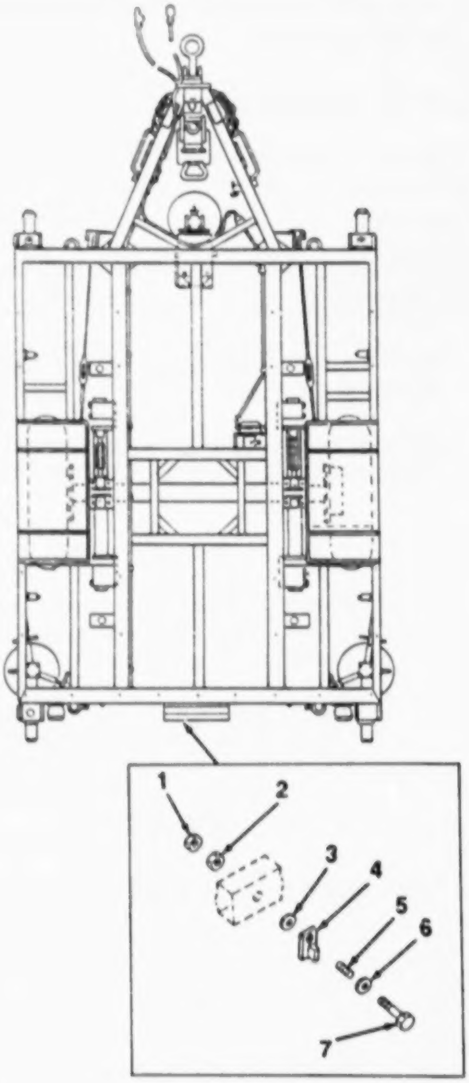
- General mechanic's tool kit

a. REMOVAL

1. Remove ladder from latches.
2. Remove jamnut (1) and nut (2) from screw (7).
3. Remove screw (7), washer (6), spring (5), latch (4), and washer (3) from frame.

b. INSTALLATION

1. Install washer (6), spring (5), latch (4), and washer (3) on frame with screw (7).
2. Install nut (2) and jamnut (1) on screw (7).



TA505051

4-49. RETRACTABLE SUPPORT ASSEMBLY MAINTENANCE (M514).

This Task Covers:

a. Removal
b. Disassembly
c. Cleaning and Inspection
d. Assembly
e. Installation
f. Adjustment

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).

Tools/Test Equipment:

- General mechanic's tool kit
- Floor jack
- Jackstand

Materials/Parts:

- Dry cleaning solvent (Item 7, Appendix E)
- Grease (Item 9, Appendix E)
- Rags (Item 14 Appendix E)
- One cotter pin
- Three spring pins
- Four lockwashers

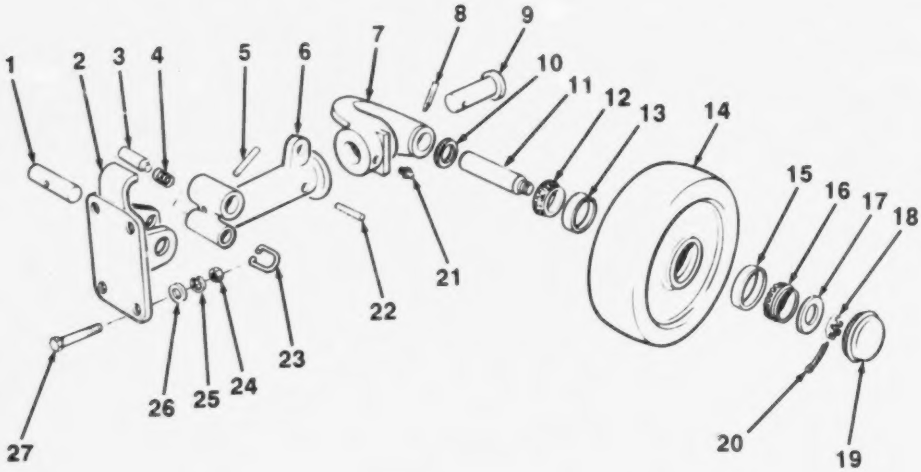
References:

- TM 9-214

a. REMOVAL

1. Raise front of trailer frame with a suitable floor jack until wheel (14) is off ground. Support frame with a jackstand.

2. Remove four nuts (24), lockwashers (25), flatwashers (26), and screws (27) securing retractable support assembly to frame. Remove retractable support assembly from frame. Discard lockwashers.



TA505052

4-49. RETRACTABLE SUPPORT ASSEMBLY MAINTENANCE (M514) (Con't).

b. DISASSEMBLY

1. Remove cap (19).
2. Remove cotter pin (20) from spindle (11). Discard cotter pin.
3. Remove nut (18) and flatwasher (17) from spindle (11).
4. Move wheel (14) back and forth on spindle (11) to loosen outer bearing (16) and inner bearing (12). Remove wheel from spindle. Remove outer and inner bearings.
5. Remove two bearing cups (13 and 15) from wheel (14).
6. Remove spring pin (8) securing spindle (11) to support (7). Remove spindle and spacer (10). Discard spring pin.
7. Remove spring pin (22) and straight pin (9) from swivel (6). Remove support (7) from swivel. Discard spring pin.
8. Remove spring pin (5) securing straight pin (1) to swivel (6). Remove straight pin and upper support (2) from swivel. Discard spring pin.
9. Remove link (23) from straight pin (3). Remove straight pin and spring (4) from swivel (6).
10. Remove grease fitting (21) from support (7).

c. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-130°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

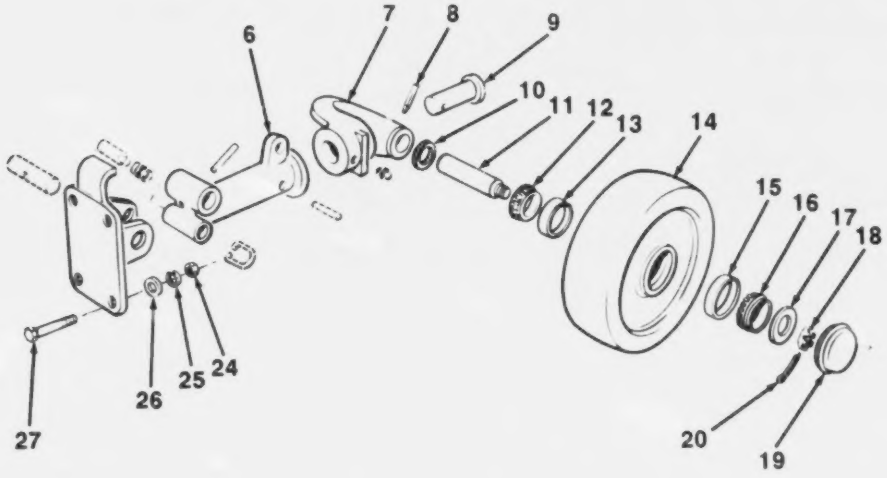
1. Clean all parts with dry cleaning solvent and dry thoroughly.
2. Clean and inspect bearings and bearing cups in accordance with TM 9-214.
3. Inspect all parts for cracks, breaks, corrosion, or other damage. Replace all damaged parts.

d. ASSEMBLY

1. Install grease fitting (21) in support (7).
2. Install spring (4) and straight pin (3) in swivel (6). Secure straight pin to swivel with link (23).
3. Install upper support (2) on swivel (6) with straight pin (1) and new spring pin (5).
4. Install support (7) on swivel (6) with straight pin (9) and new spring pin (22).

4-49. RETRACTABLE SUPPORT ASSEMBLY MAINTENANCE (M514) (Con't).

5. Install spacer (10) and spindle (11) on support (7) with new spring pin (8).
6. Press two bearing cups (13 and 15) into wheel (14) until firmly and squarely seated.
7. Install inner bearing (12) in wheel (14) with large diameter facing outside of wheel.
8. Install outer bearing (16) in wheel (14) with large diameter facing outside of wheel.
9. Install wheel (14) and flatwasher (17) on spindle (11).
10. Install nut (18) on spindle (11). Do not fully tighten nut.



e. INSTALLATION

Install retractable support assembly on frame with four screws (27), flatwashers (26), new lockwashers (25), and nuts (24).

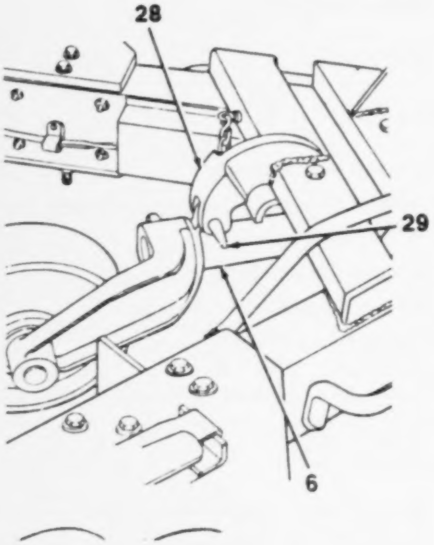
f. ADJUSTMENT

1. Rotate wheel (14) by hand and tighten nut (18) until a distinct drag is felt in wheel. Loosen nut until wheel turns freely.
2. Secure nut (18) to spindle (11) with new cotter pin (20).
3. Pack cap (19) with grease and install on wheel (14).

TA505053

4-49. RETRACTABLE SUPPORT ASSEMBLY MAINTENANCE (M514) (Con't).

4. Raise retractable support assembly to stowed position. Check to see that gravity pin (29) can be inserted without binding through hole in frame clevis (28) and swivel (6). If necessary, loosen nuts (24) and shift retractable support assembly until gravity pin can be removed and inserted without binding. Tighten nuts after adjustment.



FOLLOW-ON TASKS:

- Lower retractable support assembly (para 2-12).
- Lubricate retractable support assembly (Chapter 3, Section I).
- Remove support from frame.

TA505054

4-50. RETRACTABLE SUPPORT ASSEMBLY REPLACEMENT (M390C).

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).

Tools/Test Equipment:

- General mechanic's tool kit
- Floor jack
- Jackstand

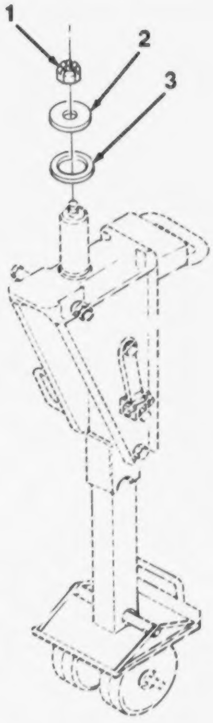
Materials/Parts:

- One locknut

a. REMOVAL

1. Raise front of trailer frame with a suitable floor jack until retractable support assembly is off ground. Support frame with a jackstand.

2. Remove locknut (1) and flatwasher (2) securing retractable support assembly to frame. Remove retractable support assembly and flatwasher (3). Discard locknut.



b. INSTALLATION

1. Install flatwasher (3) on top of retractable support assembly. Position retractable support assembly for installation.

CAUTION

Do not overtighten locknut (1). Overtightening locknut will cause retractable support assembly to bind, preventing proper steering.

2. Secure retractable support assembly to frame with flatwasher (2) and new locknut (1).

TA505055

4-50. RETRACTABLE SUPPORT ASSEMBLY REPLACEMENT (M390C) (Con't).

FOLLOW-ON TASKS:

- Check operation of retractable support assembly.
- Lubricate retractable support assembly (Chapter 3, Section I).
- Lower retractable support assembly (para 2-12).
- Remove support from frame.

4-51. LEVELING JACK MAINTENANCE (M514).

This Task Covers:

a. Removal
b. Disassembly
c. Cleaning and Inspection
d. Assembly
e. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).

Tools/Test Equipment:

- General mechanic's tool kit

Personnel Required: Two

Materials/Parts:

- Dry cleaning solvent (Item 7, Appendix E)
- Rags (Item 14, Appendix E)
- One gasket
- One preformed packing
- Two locknuts
- Three cotter pins
- Twenty-seven lockwashers

a. REMOVAL

1. Lower leveling jack to ground (para 2-13).

NOTE

Steps 2 and 3 apply to rear leveling jack only.

2. Remove nut (38), lockwasher (37), and screw (36) securing each handle bar support (35) to frame. Discard lockwashers.

3. Remove four nuts (4) and lockwashers (5) securing support rods (29) to support assemblies (3). Remove support rods. Discard lockwashers.

NOTE

Bracket (31) and handle bar support (35) are installed on rear leveling jack only.

4. Remove four screws (33) and lockwashers (32) securing handle bar (30) to support assemblies (3). Remove handle bar and bracket (31). Remove handle bar supports (35). Discard lockwashers.

NOTE

Step 5 applies to rear leveling jack only.

5. Remove quick release pin (34) from each handle bar support (35).

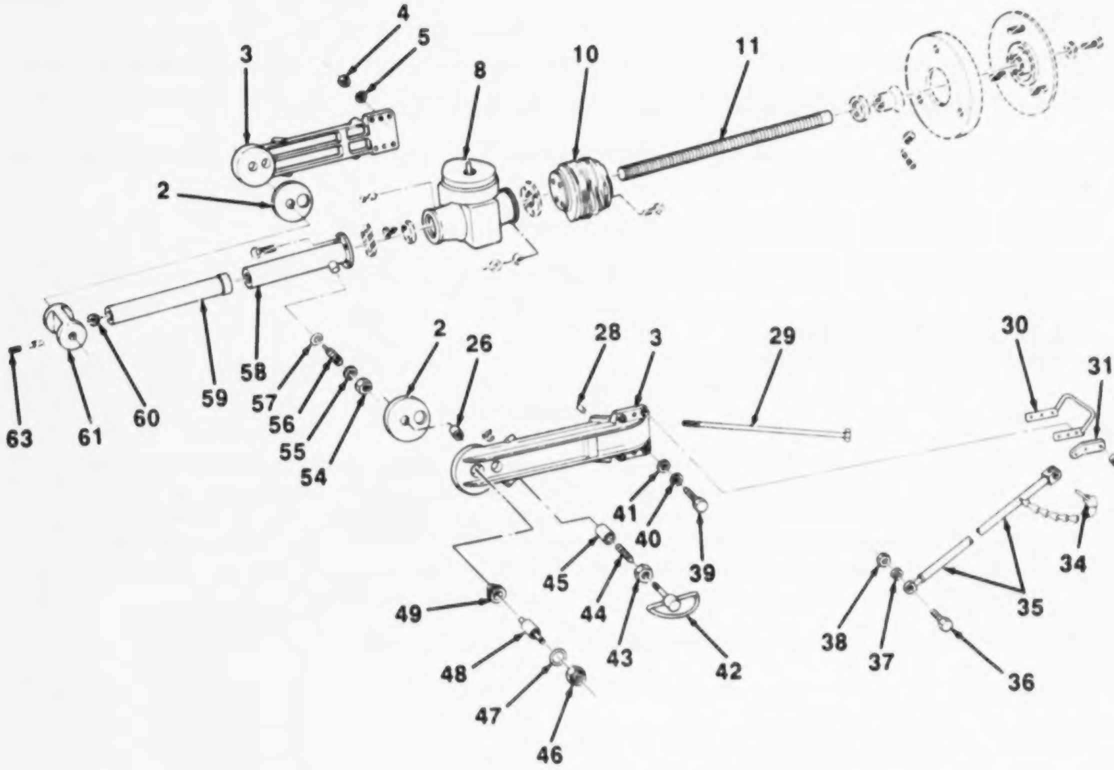
6. Loosen two setscrews (63) and remove locknuts (46). Remove shouldered shafts (48) and flatwashers (47) from yoke (61). Discard locknuts.

7. Unscrew spring retainer (43) from each support assembly (3) and pull out retractor (42), spring (44), and plunger (45) as an assembly.

8. Remove four screws (39), lockwashers (40), and flatwashers (41) securing each support assembly (3) to gearbox assembly (8). Remove support assemblies from gearbox assembly. Use caution not to damage pins (28) or holes in gearbox assembly. Discard lockwashers.

9. Remove two spacers (2) and gearbox assembly (8) with screw (11), sleeve (10), and connecting parts.

4-51. LEVELING JACK MAINTENANCE (M514) (Con't).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b. DISASSEMBLY

1. Remove four pins (28) from support assemblies (3) or gearbox assembly (8). Do not remove bearings (26) or cases (49).
2. Remove cover (59) with yoke (61) assembly from cover (58). Remove cover (59) and preformed packing (60) from yoke. Discard preformed packing.
3. Remove nut (54) and flatwasher (55) from plunger assembly (56). Remove plunger assembly and washer (57) from cover (58).

TA505056

4-51. LEVELING JACK MAINTENANCE (M514) (Con't).

4. Disassemble plunger assembly (56) by removing setscrew (50) from body (53). Remove spring (51) and pin (52) from body.

5. Remove four nuts (6), lockwashers (7), and screws (1) securing cover (58) to gearbox assembly (8). Remove cover and gasket (25). Discard lockwashers and gasket.

6. Remove screw (17), lockwasher (16), and shoe (15) and cover (14) assembly from screw (11). Discard lockwasher.

7. Remove three cotter pins (19), nuts (18) and separate shoe (15) from cover (14). Discard cotter pins.

8. Loosen hose clamp (12) and remove socket (13) from screw (11).

9. Remove four nuts (22), lockwashers (21), screws (20), sleeve (10), and plate (9) from gearbox assembly (8). Discard lockwashers.

10. Remove two screws (24) and stop (23) from gearbox assembly (8).

11. Using handcrank, turn gearbox gears to remove screw (11) from gearbox assembly (8).

c. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F–130°F (38°C–59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Clean all metal parts with dry cleaning solvent and dry thoroughly.

2. Inspect screw for straightness by rolling on a flat surface.

3. Inspect shouldered shafts and plunger for damage.

4. Inspect sleeve for tears in fabric or loose stitching.

5. Check each case (49) for damage. If case is damaged, remove retaining ring (27) and press case out of support assembly (3). Discard retaining ring. Press new case into support assembly and secure with new retaining ring.

6. Check fit of shouldered shaft in case. Fit should be smooth without binding or excessive free play.

7. Inspect bearings (26) for damage. If damaged, press out of support assembly and replace.

8. Check fit of plunger in bearing. Fit should be smooth without binding or excessive free play.

9. Inspect threaded inserts (62) in yoke (61) for stripped threads or other damage. If damaged, drive out of yoke and replace.

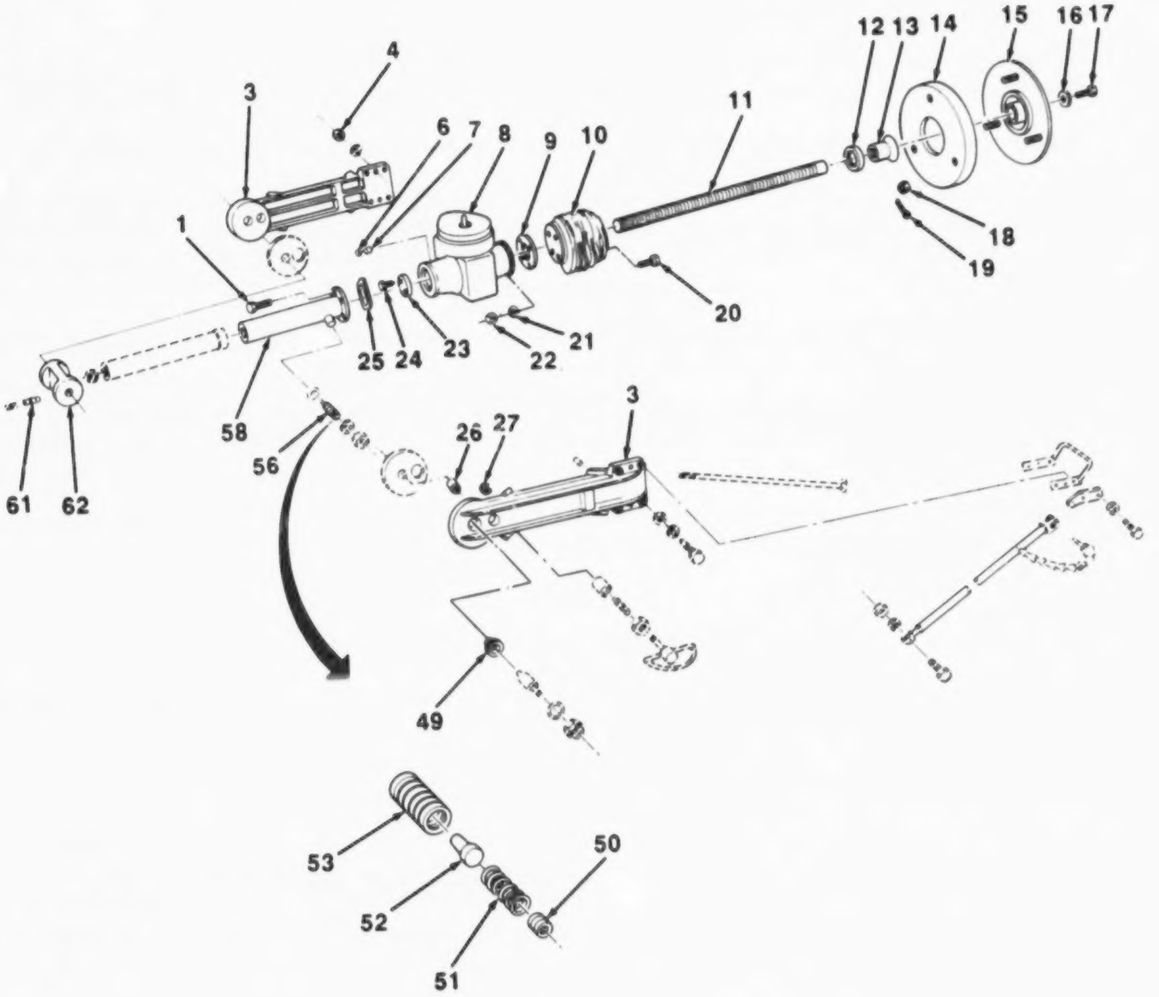
d. ASSEMBLY

1. Aline screw (11) with threads in worm gear at lower side of gearbox assembly (8). Turn driveshaft with handcrank, and work screw into gearbox assembly (4).

2. Install stop (23) on gearbox assembly (8) with two screws (24).

4-51. LEVELING JACK MAINTENANCE (M514) (Con't).

3. Position plate (9) over lip on sleeve (10). Ensure countersunk screw holes face sleeve. Slide sleeve and plate over screw (11) and install four screws (20), new lockwashers (21), and nuts (22).
4. Install socket (13) on screw (11) with hose clamp (12).
5. Assemble shoe (15) on cover (14) with three nuts (18) and new cotter pins (19).
6. Install shoe (15) and cover (14) assembly on screw (11) with new lockwasher (16) and screw (17).
7. Install new gasket (25) and cover (58) on gearbox assembly (8) with four screws (1), new lockwashers (7), and nuts (6).
8. Assemble plunger assembly (56) by installing pin (52) and spring (51) in body (53). Secure with setscrew (50).



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TA505057

4-51. LEVELING JACK MAINTENANCE (M514) (Con't).

9. Install washer (57) and plunger assembly (56) in cover (58). Secure plunger assembly to cover with flatwasher (55) and nut (54).

10. Install new preformed packing (60) in annular groove in yoke (61).

11. Push yoke (61), counterbored face first, onto top end of cover (59).

12. Push cover (59), open end first, into top end of cover (58).

13. Install four pins (28) in support assemblies (3).

e. INSTALLATION

1. Position gearbox assembly (8) with screw (11), sleeve (10), yoke (61), and connecting parts on ground. Aline threaded holes in yoke with pivot holes in frame-mounted leveling jack support assembly.

2. Position two spacers (2) on outside faces of pivot holes in leveling jack support assembly.

3. Position two support assemblies (3) on outside faces of spacers (2) and gearbox assembly (8). Ensure that pins (28) are properly seated in gearbox assembly. Ensure that spacers are properly seated around projecting ends of pivot stud bearings in bracket support assemblies and retractor plunger cases on frame.

4. Install four flatwashers (41), new lockwashers (40), and screws (39) to secure each support assembly (3) to gearbox assembly (8).

5. Install two shouldered shafts (48), flatwashers (47) and new locknuts (46) into yoke (61). Tighten two setscrews (63). Tighten locknuts sufficiently to give some retarding friction between support assemblies (3) and spacers (2).

6. Position plunger (45), spring (44), spring retainer (43), and retractor (42) in each support assembly (3). Secure by screwing spring retainers into support assemblies.

NOTE

Steps 7 and 8 apply to rear leveling jack only.

7. Install two support rods (29) on each side of support assemblies (3). Secure with four new lockwashers (5) and nuts (4). Tighten nuts until tension is obtained in all four support rods.

8. Install quick release pin (34) on each handle bar support (35).

NOTE

Bracket (31) and handle bar supports (35) are installed on rear leveling jack only.

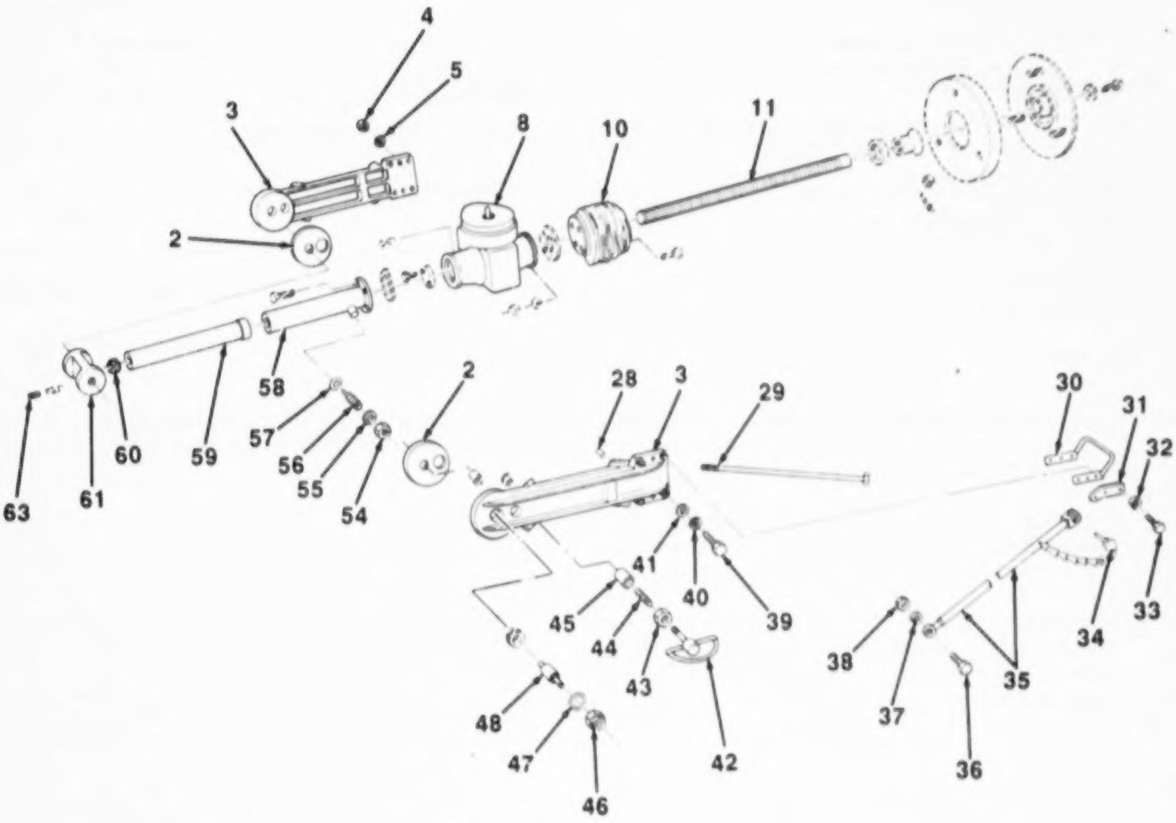
9. Install handle bar (30), bracket (31), and two handle bar supports (35) on support assemblies (3) with four new lockwashers (32) and screws (33).

NOTE

Step 10 applies to rear leveling jack only.

10. Secure each handle bar support (35) to frame with screw (36), new lockwasher (37), and nut (38).

4-51. LEVELING JACK MAINTENANCE (M514) (Con't).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FOLLOW-ON TASKS:

- Lubricate leveling jack (Chapter 3, Section I).

TA505058

4-52. FRONT LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M514).

This Task Covers:

a. Removal
b. Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Front leveling jack removed (para 4-51).

Tools/Test Equipment:

- General mechanic's tool kit

Materials/Parts:

- Twenty-four lockwashers

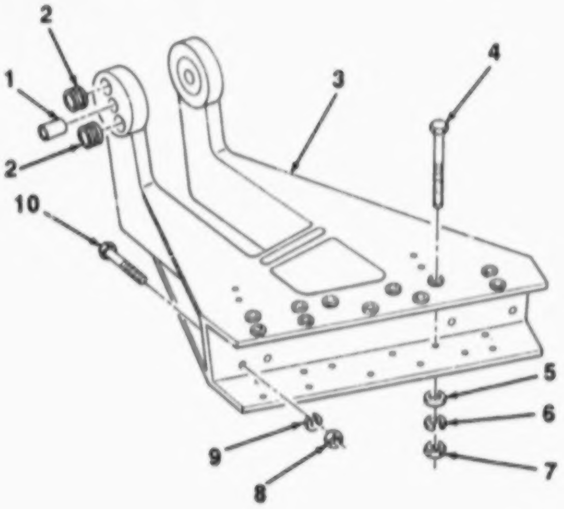
Personnel Required: Two

a. REMOVAL

WARNING

Leveling jack support assembly is heavy. Use assistance when removing it. Failure to follow this warning could cause support assembly to fall, resulting in serious injury to personnel or damage to equipment.

1. Remove 16 nuts (7), lockwashers (6), flatwashers (5), and screws (4) securing support assembly (3) to frame. Discard lockwashers.
2. Remove eight nuts (8), lockwashers (9), and screws (10), securing support assembly (3) to frame. Remove support assembly. Discard lockwashers.



b. INSPECTION

1. Inspect two sleeve bearings (1 and 2) for damage. If sleeve bearings are damaged, press out of support assembly and replace.
2. Inspect all parts for cracks, breaks, corrosion, or other damage. Replace all damaged parts.

TA505059

4-52. FRONT LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M514) (Con't).

c. INSTALLATION

WARNING

Leveling jack support assembly is heavy. Use assistance when installing it. Failure to follow this warning could cause support assembly to fall, resulting in serious injury to personnel or damage to equipment.

1. Install support assembly (3) on frame with eight screws (10), new lockwashers (9), and nuts (8).
2. Secure support assembly (3) to frame with 16 screws (4), flatwashers (5), new lockwashers (6), and nuts (7).

FOLLOW-ON TASKS:

- Install front leveling jack (para 4-51).

4-53. REAR LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M514).

This Task Covers:

a. Removal
b. Inspection
c. Installation

Initial Setup:

Equipment Conditions:

- Rear leveling jack removed (para 4-51).

Materials/Parts:

- Eight locknuts

Tools/Test Equipment:

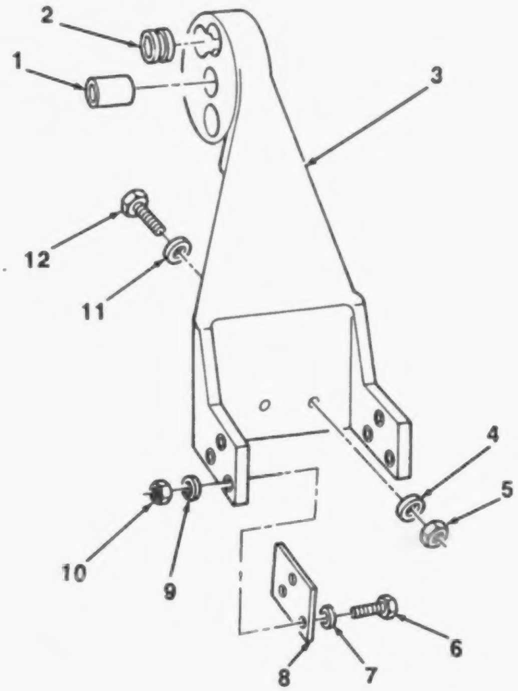
- General mechanic's tool kit

a. REMOVAL

NOTE

Rear leveling jack support assembly consists of two supports (3) bolted to frame. Removal of one support is described. Removal of other support is the same.

1. Remove two locknuts (5), flatwashers (4), flatwashers (11), and bolts (12) securing support (3) to frame. Discard locknuts.
2. Remove six locknuts (10), flatwashers (9), flatwashers (7), bolts (6), and two shims (8) securing support (3) to frame. Remove support from frame. Discard locknuts.
3. Repeat steps 1 and 2 for other support (3), as required.



b. INSPECTION

1. Inspect sleeve bearings (1 and 2) for damage. If damaged, remove from support (3) and replace.
2. Inspect all parts for cracks, breaks, corrosion, or other damage. Replace all damaged parts.

TA505060

4-53. REAR LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M514) (Con't).

c. INSTALLATION

NOTE

Rear leveling jack support assembly consists of two supports (3) bolted to frame. Installation of one support is described. Installation of other support is the same.

1. Install support (3) and two shims (8) on frame with six bolts (6), flatwashers (7), flatwashers (9), and new locknuts (10).
2. Secure support (3) to frame with two bolts (12), flatwashers (11), flatwashers (4), and new locknuts (5).
3. Repeat steps 1 and 2 for other support (3), as required.

FOLLOW-ON TASKS:

- Install rear leveling jack (para 4-51).

4-54. TIE-DOWN PAD ASSEMBLY MAINTENANCE (M514).

This Task Covers:

a. Removal
b. Cleaning and Inspection
c. Installation

Initial Setup:

Tools/Test Equipment:

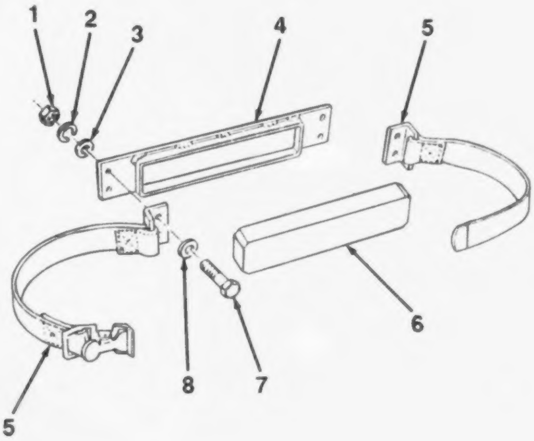
- General mechanic's tool kit

Materials/Parts:

- Adhesive (Item 1, Appendix E)
- Dry cleaning solvent (Item 7, Appendix E)
- Rags (Item 14, Appendix E)
- Four lockwashers

a. REMOVAL

Remove four nuts (1), lockwashers (2), flatwashers (3), flatwashers (8), and screws (7) securing two straps (5) and bracket (4) to frame. Remove from frame. Discard lockwashers.



b. CLEANING AND INSPECTION

1. Inspect straps (5) for tears or excessively frayed webbing. Replace if damaged.

2. Inspect rubber strip (6) for damage or excessive deterioration. If rubber strip requires replacement:

   (a) Peel rubber strip (6) off bracket (4).

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F–130°F (38°C–59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

   (b) Clean bracket (4) with dry cleaning solvent and dry thoroughly.

   (c) Apply adhesive to bracket (4) and press new rubber strip (6) into position. Allow adhesive to cure according to instructions on tube.

c. INSTALLATION

Install bracket (4) and two straps (5) on frame with four screws (7), flatwashers (8), flatwashers (3), new lockwashers (2), and nuts (1).

TA505061

4-55. LEVELING JACK REPLACEMENT (M390C).

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).

Tools/Test Equipment:

- General mechanic's tool kit
- Floor jack
- Jackstand
- Torque wrench

Materials/Parts:

- Four lockwashers

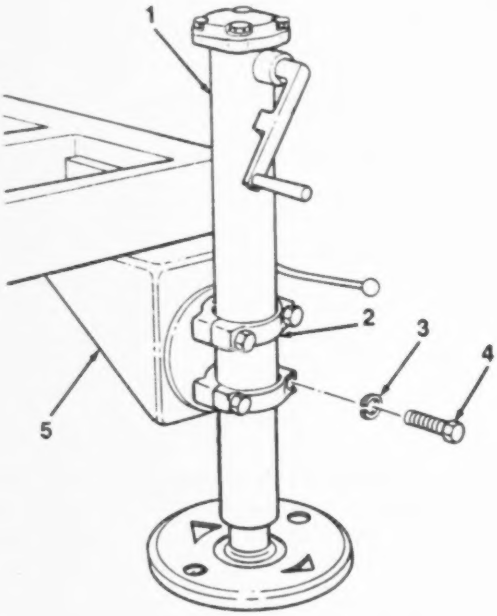
a. REMOVAL

1. Lower leveling jack (1) to ground (para 2-13).
2. Raise frame and use a suitable jackstand to support frame next to leveling jack (1).

WARNING

Support leveling jack (1) when removing cap (2). Leveling jack or cap could fall, causing injury to personnel or damage to equipment.

3. Remove four screws (4) and lockwashers (3) securing cap (2) to support assembly (5). Remove leveling jack (1) and cap. Discard lockwashers.



b. INSTALLATION

WARNING

Support leveling jack (1) until cap (2) is installed. Leveling jack could fall, causing injury to personnel or damage to equipment.

1. Position leveling jack (1) for installation on support assembly (5).
2. Install leveling jack (1) and cap (2) on support assembly (5) with four new lockwashers (3) and screws (4). Tighten screws to 65 lb.-ft. (88 N•m).

FOLLOW-ON TASKS:

- Remove support from frame.

Section X. SPRINGS AND SHOCK ABSORBERS MAINTENANCE

Paragraph Title — Page Number

Shock Absorber Replacement (M514) 4-134
Springs and Radius Rods Replacement (M390C) 4-128

4-56. SPRINGS AND RADIUS RODS REPLACEMENT (M390C).

This Task Covers:

a. Removal
b. Installation
c. Radius Rod Adjustment

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface.

Tools/Test Equipment:

- General mechanic's tool kit
- Drain pan
- Two jackstands

Materials/Parts:

- Rags (Item 14, Appendix E)
- Two lockwashers
- Four locknuts

Personnel Required: Two

a. REMOVAL

WARNING

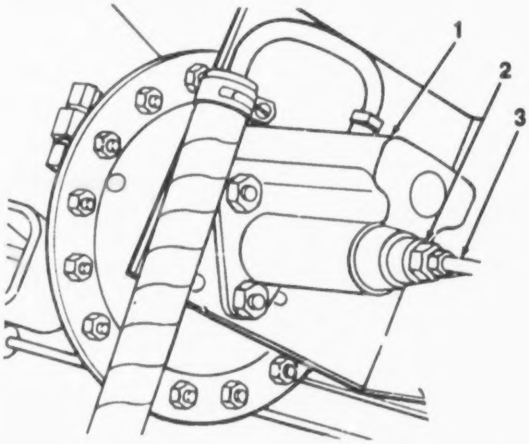
Do not attempt to raise trailer with leveling jacks. Extend leveling jacks until shoes just touch ground. Failure to do so could cause injury to personnel or damage to equipment.

1. Lower rear leveling jacks (para 2-13).

NOTE

A suitable container should be used to catch any draining brake fluid. Ensure that all spills are cleaned up.

2. Place a suitable container under master cylinder (1). Disconnect hose (3) from reducer (2) and allow brake fluid to drain into container.

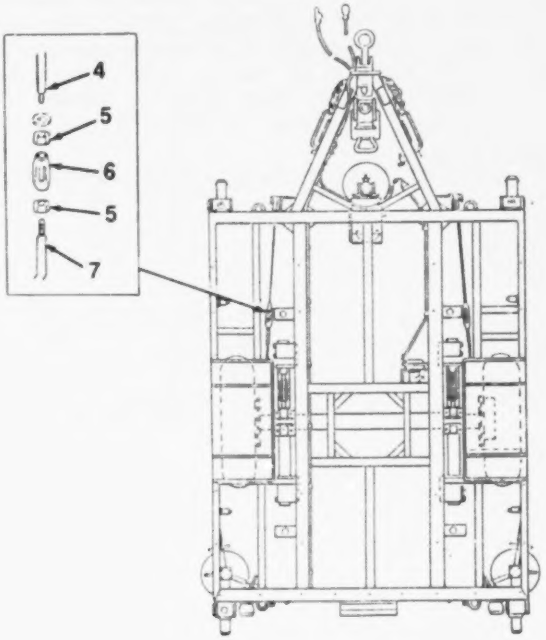


TA505063

4-56. SPRINGS AND RADIUS RODS REPLACEMENT (M390C) (Con't).

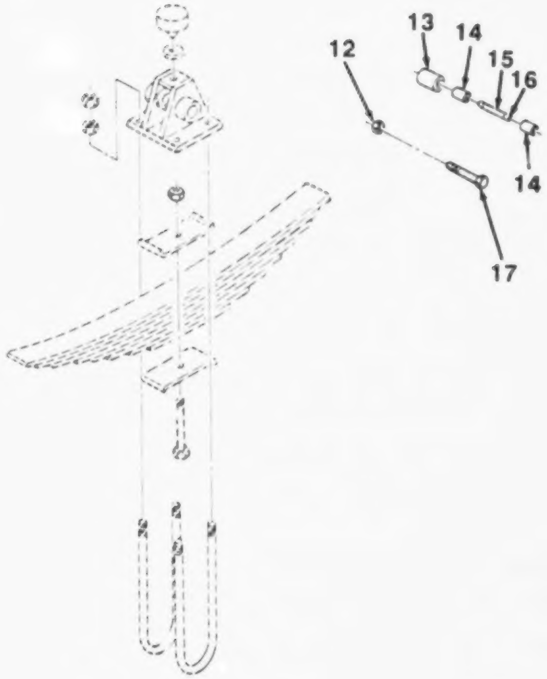
3. Loosen two nuts (5) at turnbuckle (6). Remove turnbuckle from push-pull control assembly (7) and rod (4). Repeat for other side of trailer.

4. Place a suitable lifting device under front of trailer. Raise retractable support assembly (para 2-11).



5. Remove locknut (12) and screw (17) from each spring hanger. Discard locknuts.

6. Remove two setscrews (16) from roller pin (15) at each spring hanger. Drive out roller pin and remove two sleeve bearings (14) and bushing (13).

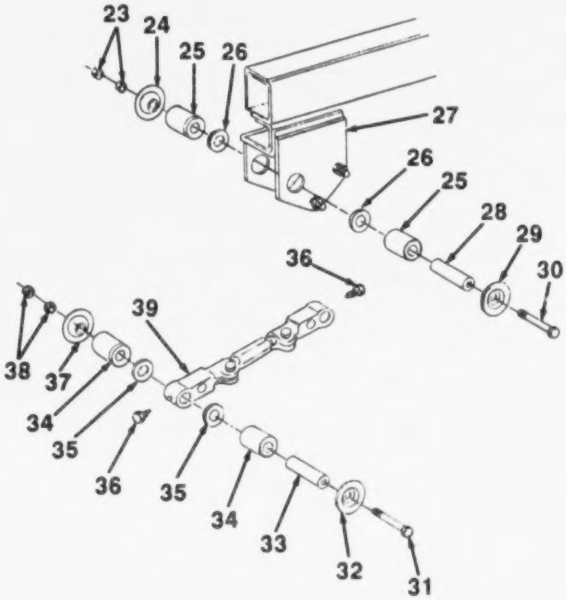


TA505064

4-56. SPRINGS AND RADIUS RODS REPLACEMENT (M390C) (Con't).

7. Remove two nuts (23), screw (30), outer shouldered washer (29), sleeve bearing (28), inner shouldered washer (24), two rubber bushings (25), and two flatwashers (26) securing radius rod (39) to spring hanger (27).

8. Repeat steps 5 through 7 for other side of trailer.



WARNING

- **Stand clear of lifting device when raising trailer. Failure to follow this warning may result in serious injury or death to personnel.**
- **Axle is heavy and awkward to handle. Use caution, provide adequate support, and use assistance during removal. Failure to follow this warning may result in serious injury to personnel.**

9. Raise front of trailer high enough for wheels to clear frame. Roll assembled wheels, axle, springs, and radius rods out from under trailer. Lower trailer and support with two jackstands.

10. Block axle and wheels to keep them from moving.

11. Remove four nuts (8) from each U-bolt (21). Separate spring (18), axle, and bumper bracket (9). Repeat for other spring.

12. Remove two nuts (38), screw (31), outer shouldered washer (32), sleeve bearing (33), inner shouldered washer (37), two rubber bushings (34), and two flatwashers (35) securing radius rod (39) to bumper bracket (9). Remove radius rod.

13. Remove two setscrews (36) from radius rod (39).

14. Remove nut (22) and screw (20) and disassemble springs (18) and two plates (19).

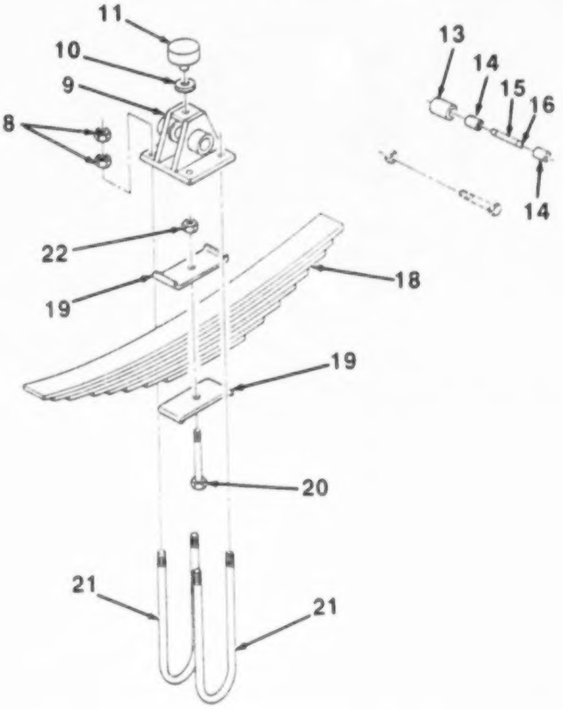
15. Remove rubber bumper (11) and lockwasher (10) from bumper bracket (9). Discard lockwasher.

16. Repeat steps 12 through 15 for other side.

TA505065

4-56. SPRINGS AND RADIUS RODS REPLACEMENT (M390C) (Con't).

b. INSTALLATION



1. Install new lockwasher (10) and rubber bumper (11) on bumper bracket (9).

2. Assemble springs (18) and two plates (19) with screw (20) and nut (22).

3. Install two setscrews (36) in radius rod (39).

4. Install radius rod (39) on bumper bracket (9) with two flatwashers (35), two rubber bushings (34), sleeve bearing (33), inner shouldered washer (37), outer shouldered washer (32), screw (31), and two nuts (38).

5. Install spring (18) and bumper bracket (9) on axle mounting pad with two U-bolts (21) and eight nuts (8).

6. Repeat steps 1 through 5 for other side of trailer.

7. Install bushing (13), two sleeve bearings (14), and roller pin (15) in upper hole in spring hanger (27). Secure roller pin with two setscrews (16). Repeat for remaining three spring hangers.

WARNING

Stand clear of lifting device when raising trailer. Failure to follow this warning may result in serious injury or death to personnel.

8. Place a suitable lifting device under front of trailer. Raise trailer enough for wheels and tires to clear frame. Remove two jackstands.

WARNING

Axle is heavy and awkward to handle. Use caution, provide adequate support, and use assistance during installation. Failure to follow this warning may result in serious injury to personnel.

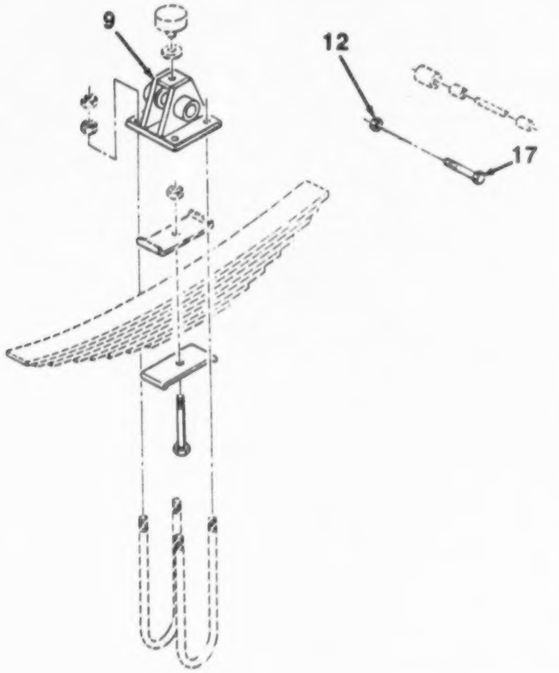
9. Remove blocking and roll assembled axle into position under trailer so that spring (18) ends are in spring hangers (27). Lower trailer into position. DO NOT remove support from trailer.

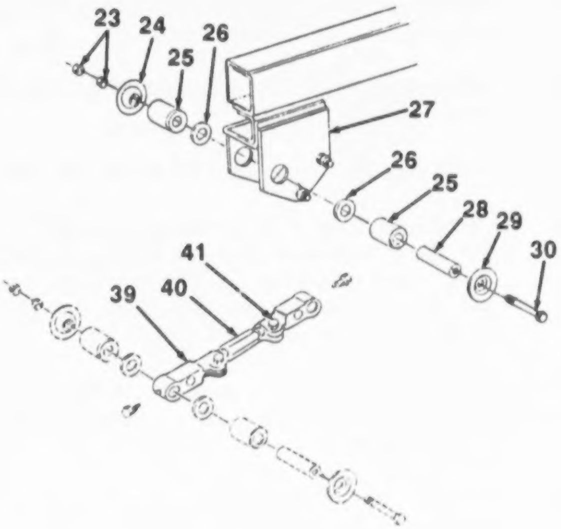
10. Install radius rod (39) to spring hanger (27) with two flatwashers (26), two rubber bushings (25), sleeve bearing (28), inner shouldered washer (24), outer shouldered washer (29), screw (30), and two nuts (23). Repeat for other side of trailer.

TA505066

4-56. SPRINGS AND RADIUS RODS REPLACEMENT (M390C) (Con't).

11. Install screw (17) through lower hole in spring hanger (27). Secure screw with new locknut (12). Repeat for remaining three spring hangers.

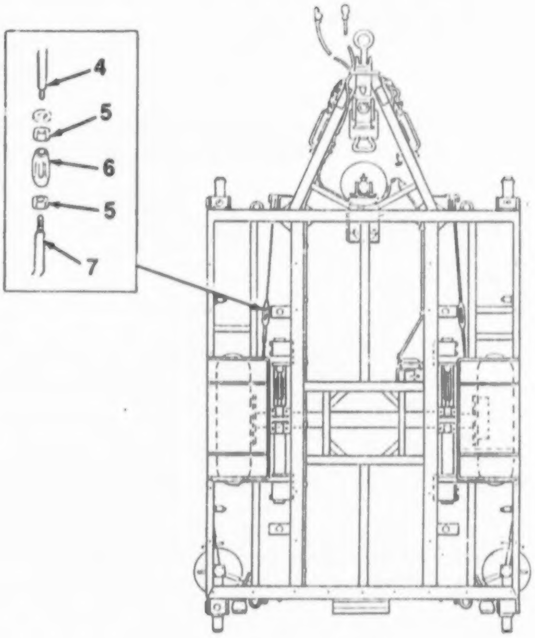




12. Lower retractable support assembly (para 2-12).

13. Fully lower trailer and rest on retractable support assembly.

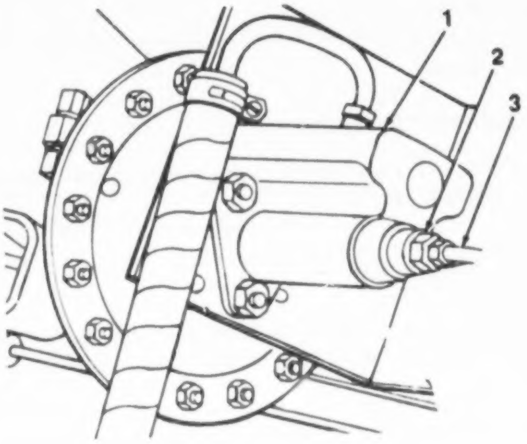
14. Install turnbuckle (6) on push-pull control assembly (7) and rod (4). Tighten nuts (5) to secure turnbuckle. Repeat for other side of trailer



TA505067

4-56. SPRINGS AND RADIUS RODS REPLACEMENT (M390C) (Con't).

15. Connect hose (3) to reducer (2) at master cylinder (1).
16. Add brake fluid to master cylinder (1). Bleed brakes (para 4-26).
17. Adjust handbrake levers (para 3-7).
18. Perform RADIUS ROD ADJUSTMENT (sub-para d).



c. RADIUS ROD ADJUSTMENT

1. Radius rods (39) maintain correct axle alinement and transmit stopping stresses to the frame. Radius rods also provide a means of compensating for slight differences in strength of springs to give correct trailer height.
2. To determine if adjustment is necessary, measure distance from center of bumper bracket (9) to center of screw (17). Distance should be 24 ¾ in. (62.9 cm) ± ⅛ in. (3.2 mm) when trailer is empty. If distance is incorrect, adjust radius rod (39) as follows:
   (a) Remove two nuts (23), screw (30), outer shouldered washer (29), sleeve bearing (28), inner shouldered washer (24), two rubber bushings (25), and two flatwashers (26) securing radius rod (39) to spring hanger (27).

   (b) Loosen two nuts (41) and turn middle portion (40) of radius rod (39) to shorten or lengthen. Fully tighten nuts.

   (c) Install radius rod (39) on spring hanger (27) with two flatwashers (26), two rubber bushings (25), sleeve bearing (28), inner shouldered washer (24), outer shouldered washer (29), screw (30), and two nuts (23).
3. Repeat measurement and continue adjusting radius rod (39) until measurement is correct.

TA505068

4-57. SHOCK ABSORBER REPLACEMENT (M514).

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

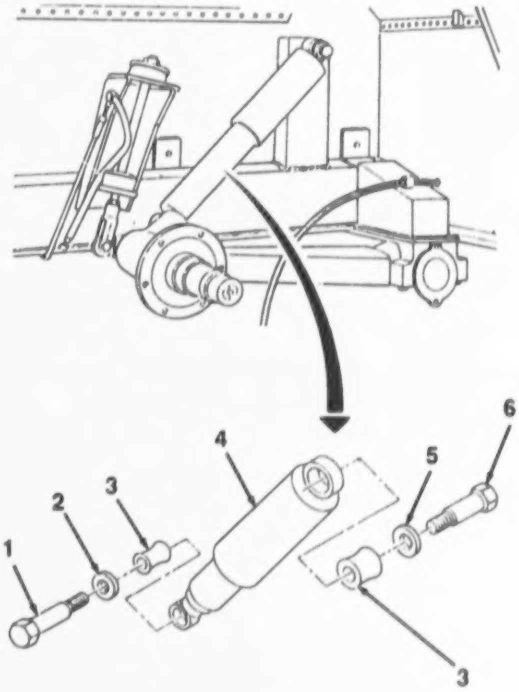
- Trailer parked on level surface with handbrakes applied (para 2-3).

Tools/Test Equipment:

- General mechanic's tool kit
- Floor jack

a. REMOVAL

1. Place a suitable floor jack under suspension arm and raise until wheel is off ground.
2. Remove bolt (1) and flatwasher (2) securing shock absorber (4) to suspension arm.
3. Remove bolt (6) and flatwasher (5) securing shock absorber (4) to frame. Remove shock absorber (4).
4. Remove rubber bushing (3) from eye at each end of shock absorber (4).



b. INSTALLATION

1. Install rubber bushing (3) in eye at each end of shock absorber (4).
2. Secure shock absorber (4) to frame with flatwasher (5) and bolt (6).
3. Secure shock absorber (4) to suspension arm with flatwasher (2) and bolt (1).
4. Lower suspension arm and remove floor jack.

TA505069

Section XI. BODY MAINTENANCE

Paragraph Title	Page Number
Left Fender and Toolbox Assembly Maintenance (M514)	4-136
Right Fender and Toolbox Assembly Maintenance (M514)	4-135
Splashguard Replacement (M390C)	4-138

4-58. RIGHT FENDER AND TOOLBOX ASSEMBLY MAINTENANCE (M514).

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).
- Right fender toolbox empty.

Materials/Parts:

- Ten lockwashers

Tools/Test Equipment:

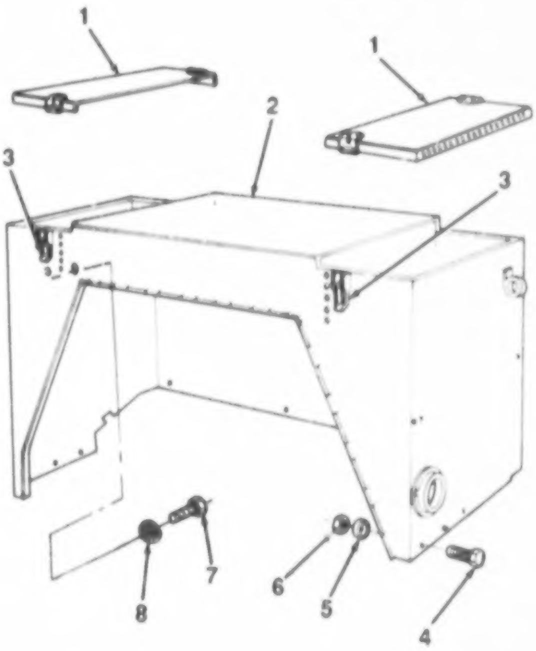
- General mechanic's tool kit

a. REMOVAL

1. Release latches (3) and remove covers (1) from fender (2).
2. Remove six nuts (6), lockwashers (5), and screws (4) securing fender (2) to frame. Discard lockwashers.
3. Remove four screws (7), lockwashers (8), and fender (2) from frame. Discard lockwashers.

b. INSTALLATION

1. Position fender (2) on frame and install four new lockwashers (8) and screws (7).
2. Secure fender (2) to frame with six screws (4), new lockwashers (5), and nuts (6).
3. Position covers (1) on fender (2) and secure with latches (3).



TA505070

4-59. LEFT FENDER AND TOOLBOX ASSEMBLY MAINTENANCE (M514).

This Task Covers:

a. Removal
b. Disassembly
c. Cleaning
d. Assembly
e. Installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).
- Left fender toolbox empty.

Tools/Test Equipment:

- General mechanic's tool kit
- Common no. 1 shop set
- Hand riveter, blind
- Safety goggles

Materials/Parts:

- Adhesive (Item 2, Appendix E)
- Dry cleaning solvent (Item 7, Appendix E)
- Rags (Item 14, Appendix E)
- Two gaskets
- Two seals
- Four rivets
- Ten lockwashers

a. REMOVAL

1. Remove six nuts (7), lockwashers (6), and screws (5) securing fender (1) to frame. Discard lockwashers.

2. Remove four screws (11), lockwashers (12), and fender (1) from frame. Discard lockwashers.

d. DISASSEMBLY

1. Release catches (9) and remove lid (2) from fender (1).

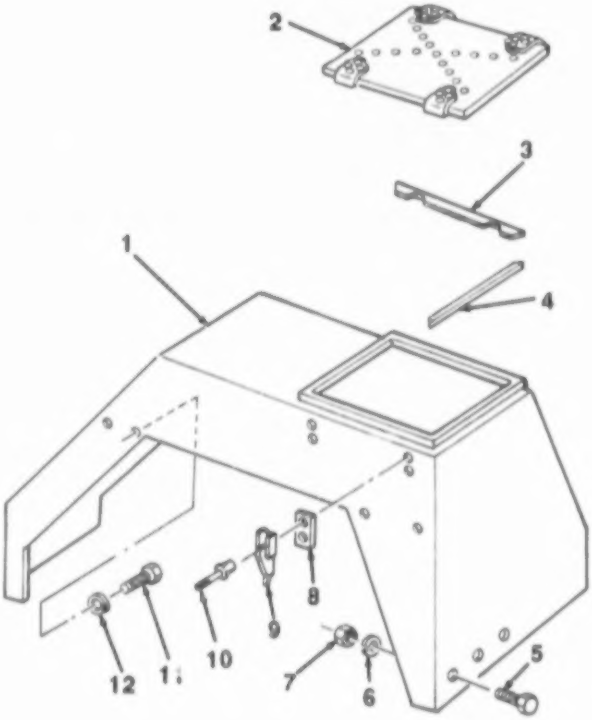
2. Remove two gaskets (3) and two seals (4) from lid (2) opening. Discard gaskets and seals.

WARNING

When performing steps 3 and 4, safety goggles must be worn to prevent eye injury.

3. Cut heads off two rivets (10) securing each catch (9) to fender (1).

4. Drive rivet bodies out of fender (1). Remove two catches (9) and spacers (8) from fender (1). Discard rivets.



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4-59. LEFT FENDER AND TOOLBOX ASSEMBLY MAINTENANCE (M514) (Con't).

c. CLEANING

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-130°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

Use dry cleaning solvent to clean lid opening where gaskets and seals are to be installed. Thoroughly dry area.

d. ASSEMBLY

1. Install spacer (8) and catch (9) on fender (1) with two new rivets (10). Repeat for other catch.
2. Use adhesive to install two new gaskets (3) and two new seals (4). Allow adhesive to cure according to instructions on tube.
3. Position lid (2) on fender (1) and secure with catches (9).

e. INSTALLATION

1. Position fender (1) on frame and install four screws (11) and new lockwashers (12).
2. Secure fender (1) to frame with six screws (5), new lockwashers (6), and nuts (7).

4-60. SPLASHGUARD REPLACEMENT (M390C).

This Task Covers:

a. Removal

b. installation

Initial Setup:

Equipment Conditions:

- Trailer parked on level surface with handbrakes applied (para 2-3).

Tools/Test Equipment:

- General mechanic's tool kit

Materials/Parts:

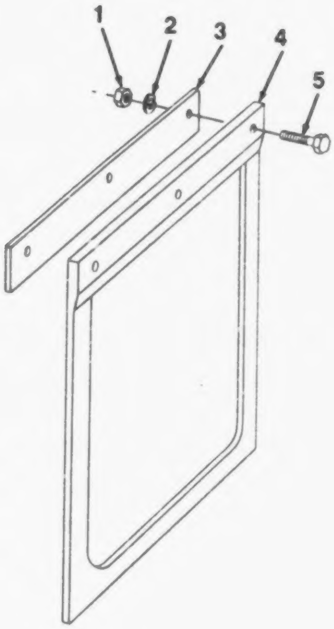
- Three lockwashers

a. REMOVAL

Remove three nuts (1), lockwashers (2), and screws (5) securing splashguard (4) and bar (3) to frame. Remove splashguard and bar. Discard lockwashers.

b. INSTALLATION

Install bar (3) and splashguard (4) on frame with three screws (5), new lockwashers (2), and nuts (1).



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Section XII. ACCESSORY ITEMS MAINTENANCE

Paragraph Title	Page Number
Data Plate Replacement	4-140
Reflector Replacement	4-139

4-61. REFLECTOR REPLACEMENT.

This Task Covers:

a. Removal

b. Installation

Initial Setup:

Tools/Test Equipment:

- General mechanic's tool kit

Materials/Parts:

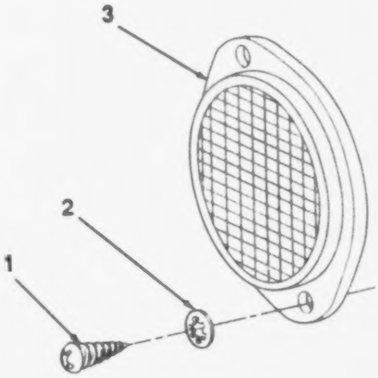
- Two lockwashers

a. REMOVAL

Remove two screws (1), lockwashers (2), and reflector (3) from frame. Discard lockwashers.

b. INSTALLATION

Install reflector (3) on frame with two new lockwashers (2) and screws (1).



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4-62. DATA PLATE REPLACEMENT.

This Task Covers:

a. Removal b. Installation

Initial Setup:

Tools/Test Equipment

- General mechanic's tool kit

NOTE

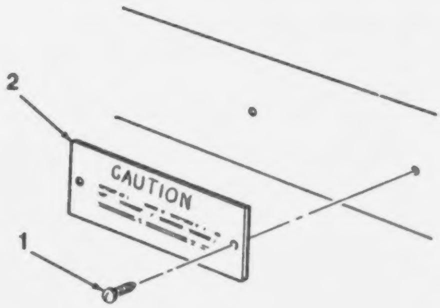
- **Refer to paragraph 1-8 for location and contents of data plates (2).**
- **The following procedure is typical for all data plates (2) on the M514 and M390C Chassis Trailers.**

a. REMOVAL

Remove screws (1) securing data plate (2) to frame. Remove data plate.

b. INSTALLATION

Install data plate (2) on frame with screws (1).



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Section XIII. PAINTING AND IDENTIFICATION MARKING

4-63. PAINTING AND IDENTIFICATION MARKING.

a. For information on painting and stenciling, refer to TM 43-0139.

b. For information on camouflage painting, refer to FM 5-20.

Section XIV. PREPARATION FOR STORAGE OR SHIPMENT

Paragraph Title	Page Number
Care of Equipment in Administrative Storage	4-143
Definition of Administrative Storage	4-142
Exercise Schedule, Table 4-3	4-144
General	4-141
Preparation of Equipment for Administrative Storage	4-142
Preparation of Equipment for Shipment	4-144
Procedures for Common Components and Miscellaneous Items	4-144
Removal of Equipment from Administrative Storage	4-144

4-64. GENERAL.

a. This section contains requirements and procedures for administrative storage of equipment that is issued to and in use by Army activities worldwide.

b. The requirements specified herein are necessary to maintain equipment in administrative storage in such a way as to achieve the maximum readiness condition.

c. Equipment that is placed in administrative storage should be capable of being readied to perform its mission within a 24-hour period, or as otherwise may be prescribed by the approving authority. Before equipment is placed in administrative storage, a current preventive maintenance checks and services (PMCS) should be completed and deficiencies corrected.

d. Report equipment in administrative storage as prescribed for all reportable equipment.

e. Perform inspections, maintenance services, and lubrication as specified herein.

f. Records and reports to be maintained for equipment in administrative storage are those prescribed by DA Pam 738-750 for equipment in use.

g. A 10% variance is acceptable on time, running hours, or mileage used to determine the required maintenance actions.

h. Accomplishment of applicable PMCS, as mentioned throughout this section, will be on a quarterly basis.

4-65. DEFINITION OF ADMINISTRATIVE STORAGE.

The placement of equipment in administrative storage can be for short periods of time when a shortage of maintenance effort exists. Items should be ready for use within the time factors as determined by the directing authority. During the storage period, appropriate maintenance records will be kept.

4-66. PREPARATION OF EQUIPMENT FOR ADMINISTRATIVE STORAGE.

a. **Storage Site.**

(1) Select the best available site for administrative storage. Separate stored equipment from equipment in use. Conspicuously mark the area "Administrative Storage".

(2) Covered space is preferred.

(3) Open sites should be improved hardstand, if available. Unimproved sites should be kept firm, well drained, and free of excessive vegetation.

b. **Storage Plan.**

(1) Store equipment so as to provide maximum protection from the elements and to provide access for inspection, maintenance, and exercising. Anticipate removal or deployment problems and take suitable precautions.

(2) Take into consideration environmental conditions such as extreme heat or cold; high humidity; blowing sand, dust, or loose debris; soft ground; mud; heavy snows; or any combination thereof, and take adequate precautions.

(3) Establish a fire plan and provide for adequate firefighting equipment and personnel.

c. **Maintenance Services and Inspection.**

(1) **Maintenance Services.** Prior to storage, perform the next scheduled organizational PMCS.

(2) **Inspection.** Inspect and approve the equipment prior to storage. Do not place equipment in storage in a nonmission-capable condition.

d. **Auxiliary Equipment and Basic Issue Items.**

(1) Process auxiliary equipment and basic issue items simultaneously with the major item to which they are assigned.

(2) If possible, store auxiliary equipment and basic issue items with the major item.

(3) If stored apart from the major item, mark auxiliary equipment and basic issue items with tags indicating the major item, its registration or serial number and location, and store in protective type closures. In addition, place a tag or list indicating the location of the removed items in a conspicuous place on the major item.

e. **Correction of Shortcomings and Deficiencies.** Correct all shortcomings and deficiencies prior to storage, or obtain a deferment from the approving authority.

f. **Lubrication.** Lubricate equipment in accordance with the instructions in Chapter 3, Section I.

g. **General Cleaning, Painting, and Preservation.**

CAUTION

Do not direct water or steam, under pressure, against unsealed electrical systems or any exterior opening. Failure to follow this caution may result in damage to equipment.

(1) **Cleaning.** Clean the equipment of dirt, grease, and other contaminants but do not use vapor degreasing. Remove foreign objects wedged between wheels.

4-66. PREPARATION OF EQUIPMENT FOR ADMINISTRATIVE STORAGE (Con't).

(2) **Painting.** Remove rust and damaged paint by scraping, sanding, or buffing. Sand to a smooth finish and spot paint as necessary (TB 43-0209).

(3) **Preservation.** After cleaning and drying, immediately coat unpainted metal surfaces with oil or grease, as appropriate (Chapter 3, Section I).

CAUTION

Place a piece of barrier material (Item 3, Appendix E) between desiccant bags and metal surfaces to prevent corrosion.

NOTE

Air circulation under draped covers reduces deterioration from moisture and heat.

(4) **Weatherproofing.** Sunlight, heat, moisture (humidity), and dirt tend to accelerate deterioration. Install all covers (including vehicle protective closures) authorized for the equipment. Close and secure all openings except those required for venting and draining. Seal openings to prevent the entry of rain, snow, or dust. Insert desiccant when complete seal is required. Place equipment and provide blocking or framing to allow for ventilation and water drainage. Support cover away from item surfaces that may rust, rot, or mildew.

4-67. CARE OF EQUIPMENT IN ADMINISTRATIVE STORAGE.

a. **Maintenance Services.** After equipment has been placed in administrative storage, inspect, service, and exercise as specified herein.

b. **Inspection.** Inspection will usually be visual and must consist of at least a walk-around examination of all equipment to detect any deficiencies. Inspect equipment in open storage weekly and equipment in covered storage monthly. Inspect all equipment immediately after any severe storm or environmental change. The following are examples of things to look for during a visual inspection:

(1) Low or flat tires.

(2) Condition of preservatives, seals, and wraps.

(3) Corrosion or other deterioration.

(4) Missing or damaged parts.

(5) Water in compartments.

(6) Any other readily recognizable shortcomings or deficiencies.

c. **Repair During Administrative Storage.** Keep equipment in an optimum state of readiness. Accomplish the required services and repairs as expeditiously as possible. Whenever possible, perform all maintenance on-site.

d. **Exercising.** Exercise equipment in accordance with Table 4-3, *Exercise Schedule*, and the following instructions:

(1) **Vehicle Major Exercise.** Depreserve equipment by removing only that material restricting exercise. Close all drains, remove blocks, and perform all before-operation checks. Couple trailer to towing vehicle and drive for at least 25 mi (40 km). Make several right and left 90° turns. Make several hard braking stops without skidding. Do the following during exercising when it is convenient: operate all other functional components and perform all during- and after-operation checks.

(2) **Scheduled Services.** Scheduled services will include inspection per subparagraph b above, and will be conducted in accordance with Table 4-3. Lubricate in accordance with instructions in Chapter 3, Section I.

4-67. CARE OF EQUIPMENT IN ADMINISTRATIVE STORAGE (Con't).

(3) **Corrective Action.** Immediately take action to correct shortcomings and deficiencies noted. Record inspection and exercise results on DA Form 2404. Record and report all maintenance actions on DA Form 2407. After exercising, restore the preservation to the original condition. Replenish lubricants used during exercising and note the amount on DA Form 2408.

Table 4-3. Exercise Schedule.

Weeks	2	4	6	8	10	12	14	16	18	20	22	24
PMCS						X						X
Scheduled Services		X		X		X		X		X		
Major Exercise												X

e. **Rotation.** Rotate items in accordance with any rotational plan that will keep the equipment in an operational condition and reduce the maintenance effort.

4-68. PROCEDURES FOR COMMON COMPONENTS AND MISCELLANEOUS ITEMS.

a. **Tires.** Visually inspect tires during each walk-around inspection. This inspection includes checking tires with a tire gage. Inflate, repair, or replace as necessary those found to be low, damaged, or excessively worn. Mark inflated and repaired tires with chalk for checking at the next inspection.

b. **Air Lines.** Drain air lines of condensation by removing air filter plug. Attach a caution tag, annotated to provide for installation of the plug when the equipment is exercised. Place tag in a conspicuous location.

c. **Seals.** Seals may develop leaks during storage, or shortly thereafter. If leaking persists, refer to the applicable maintenance section in this manual for corrective maintenance procedures.

4-69. REMOVAL OF EQUIPMENT FROM ADMINISTRATIVE STORAGE.

a. **Activation.** Restore the equipment to normal operating condition in accordance with the instructions contained in Chapter 4, Section II.

b. **Servicing.** Resume the maintenance service schedule in effect at the commencement of storage, or service the equipment before the scheduled dates in order to produce a staggered maintenance workload.

4-70. PREPARATION OF EQUIPMENT FOR SHIPMENT.

a. Refer to TM 55-200, TM 55-601, and TM 743-200-1 for additional instruction on processing, storage, and shipment of materiel.

b. Trailers that have been removed from storage for shipment do not have to be reprocessed if they will reach their destination within the administrative storage period. Reprocess only if inspection reveals any corrosion, or if anticipated in-transit weather conditions make it necessary.

c. When a trailer is received and has already been processed for domestic shipment, as indicated on DD Form 1397, the trailer does not have to be reprocessed for storage unless corrosion and deterioration are found during the inspection upon receipt. List on SF 364 all discrepancies found because of poor preservation, packaging, packing, marking, handling, loading, storage, or excessive preservation. Repairs that cannot be handled by the receiving unit must have tags attached listing the needed repairs. A report of these conditions will be submitted by the unit commander for action by an ordnance maintenance unit.

CHAPTER 5
DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE

Section I. TIRE AND BRAKEDRUM MAINTENANCE

Paragraph Title	Page Number
Tire Repair	5-1
Brakedrum Repair (M514)	5-1
Brakedrum Repair (M390C)	5-1

5-1. TIRE REPAIR.

For information on tire repair, refer to TM 9-2610-200-24.

5-2. BRAKEDRUM REPAIR (M514).

If braking surface of brakedrum is unevenly worn, turn brakedrum in a lathe. Ensure that diameter of braking surface will not exceed 13.20 in. (33.53 cm).

5-3. BRAKEDRUM REPAIR (M390C).

If braking surface of brakedrum is unevenly worn, turn brakedrum in a lathe. Ensure that diameter of braking surface will not exceed 15.25 in. (38.74 cm).

Section II. FRAME, RETRACTABLE SUPPORT, AND LEVELING JACK MAINTENANCE

Paragraph Title	Page Number
Double-swiveling Leveling Jack Support Assembly Maintenance (M390C)	5-16
Frame Assembly Repair	5-2
Leveling Jack Gearbox Repair (M514)	5-6
Leveling Jack Repair (M390C)	5-10
Retractable Support Assembly Repair (M390C)	5-2

5-4. FRAME ASSEMBLY REPAIR.

a. Frame assembly repair is limited to welding, straightening, and reconditioning of damaged parts.

b. For more information on repair of frames, refer to TB 9-2300-247-40.

5-5. RETRACTABLE SUPPORT ASSEMBLY REPAIR (M390C).

This Task Covers:

a. Disassembly
b. Cleaning and Inspection
c. Assembly

Initial Setup:

Equipment Conditions:

- Retractable support assembly removed (para 4-50).

Tools/Test Equipment:

- General mechanic's tool kit

References:

- TM 9-214

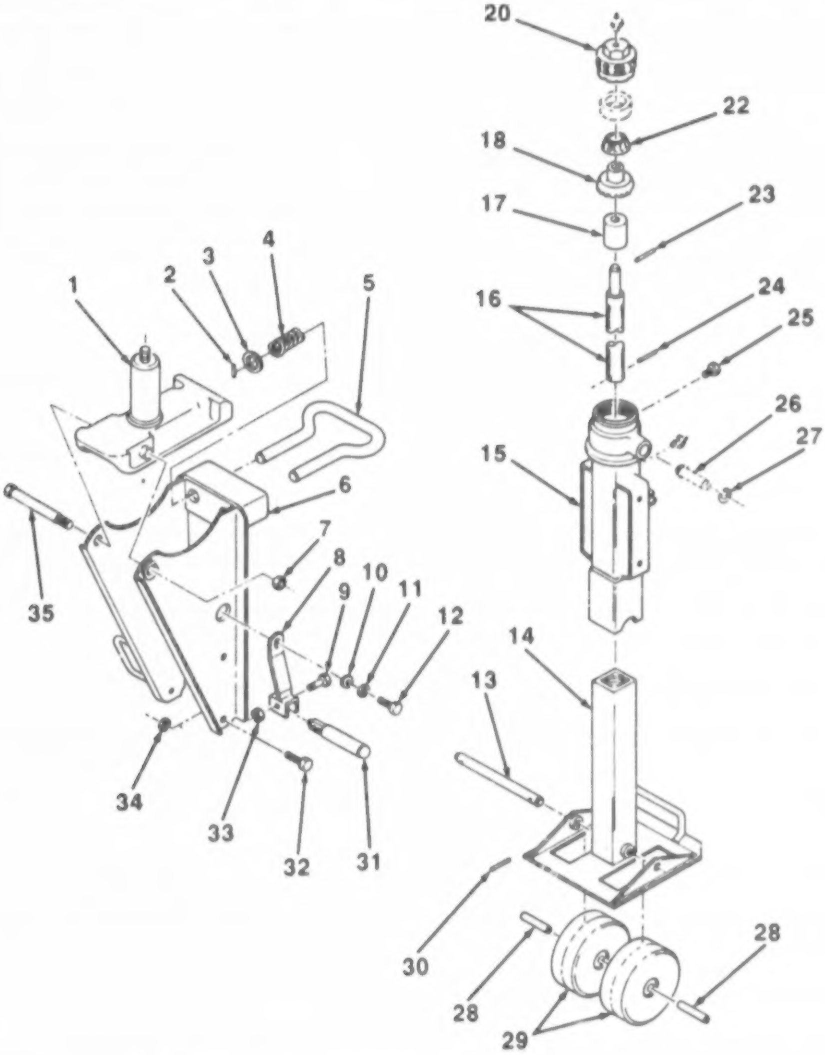
Materials/Parts:

- Dry cleaning solvent (Item 7, Appendix E)
- Grease (Item 9, Appendix E)
- Rags (Item 14, Appendix E)
- One lockwasher
- Two pins
- Four grooved pins
- Six locknuts

a. DISASSEMBLY

1. Remove bolt (12), lockwasher (11), and flatwasher (10) securing arm (8) to bevel gearshaft (26). Remove assembled arm and handle (31). Discard lockwasher.
2. Remove locknut (33), screw (9), and handle (31) from arm (8). Discard locknut.
3. Remove four locknuts (34) and screws (32) securing assembled outer tube (15) to leg (6). Rotate assembled outer tube in leg to free support mounting brackets from leg. Remove assembled outer tube from leg. Discard locknuts.
4. Remove two pins (2), washers (3), and springs (4) from handle (5). Remove handle from spindle (1). Discard pins.
5. Remove locknut (7) and bolt (35) from spindle (1). Remove spindle from leg (6). Discard locknut
6. Remove screw (25) and cap (20) from outer tube (15).
7. Remove bearing (22) from bevel gear (18).
8. Remove grooved pin (23) securing bevel gear (18) to shaft (16). Remove bevel gear, bevel gearshaft (26), spacer (17), and spacer (27). Discard grooved pin.

5-5. RETRACTABLE SUPPORT ASSEMBLY REPAIR (M390C) (Con't).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9. Remove shaft (16) from inner tube (14). Separate inner tube and outer tube (15).

10. Remove grooved pin (24) from bottom end of shaft (16). Discard grooved pin.

11. Remove two grooved pins (30) from straight pin (13). Remove two wheels (29) and straight pin from inner tube (14). Discard grooved pins.

12. Remove sleeve bearing (28) from each wheel (29).

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5-5. RETRACTABLE SUPPORT ASSEMBLY REPAIR (M390C) (Con't).

b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-130°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Clean all parts with dry cleaning solvent and dry thoroughly.
2. Inspect bearing in accordance with TM 9-214. If damaged, bearing cup (19) in cap (20) must also be replaced.
3. Inspect bearing cup (19) in cap (20) for damage. If damaged, remove bearing cup from cap. Install new bearing cup.
4. Inspect bevel gear and bevel gearshaft for cracked or broken teeth. Small nicks can be smoothed or removed with a fine mill file. If teeth are cracked or broken, replace gears as a set.
5. Inspect shaft for broken or stripped threads. Small nicks can be smoothed or removed with a fine mill file. If threads are broken or stripped, replace shaft.
6. Inspect two lubrication fittings (21) for damage. Replace if damaged
7. Inspect all other parts for cracks, breaks, corrosion, or other damage. Replace all damaged parts.

c. ASSEMBLY

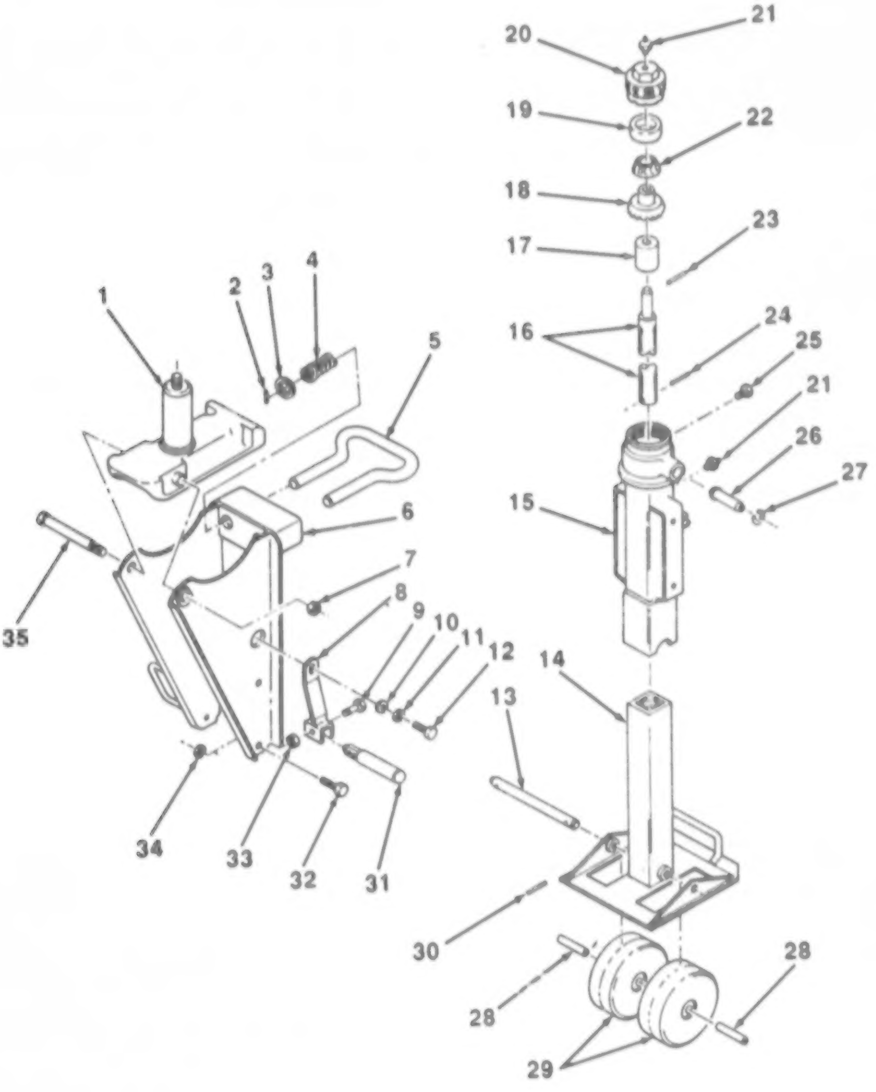
1. Press sleeve bearing (28) into each wheel (29).
2. Install wheels (29) on inner tube (14) with straight pin (13). Secure straight pin to inner tube with two new grooved pins (30).
3. Install new grooved pin (24) in bottom end of shaft (16).
4. Apply a liberal coat of grease to shaft (16). Install shaft in inner tube (14).
5. Slide outer tube (15) over inner tube (14).
6. Install spacer (17) and bevel gear (18) on shaft (16). Secure bevel gear to shaft with new grooved pin (23).
7. Install spacer (27) and bevel gearshaft (26) in outer tube (15). Ensure bevel gearshaft meshes with bevel gear (18). Pack gears with grease.
8. Install bearing (22), tapered side up, on bevel gear (18).
9. Install cap (20) on outer tube (15). Install screw (25).
10. Install spindle (1) on leg (6) with bolt (35) and new locknut (7).
11. Install handle (5) through leg (6) and spindle (1). Install two springs (4), washers (3), and new pins (2).

5-5. RETRACTABLE SUPPORT ASSEMBLY REPAIR (M390C) (Con't).

12. Position assembled outer tube (15) in leg (6). Ensure that bevel gearshaft (26) passes through hole in leg. Install four screws (32) and new locknuts (34).

13. Assemble handle (31) on arm (8) with screw (9) and new locknut (33). Tighten locknut so that no vibration of handle is possible.

14. Install arm (8) on bevel gearshaft (26) with flatwasher (10), new lockwasher (11), and bolt (12).



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FOLLOW-ON TASKS:

- Install retractable support assembly (para 4-50).

TA504731

5-6. LEVELING JACK GEARBOX REPAIR (M514).

This Task Covers:

a. Disassembly
b. Cleaning and Inspection
c. Assembly

Initial Setup:

Equipment Conditions:

- Leveling jack removed (para 4-51).

Tools/Test Equipment:

- General mechanic's tool kit

References:

- TM 9-214

Materials/Parts:

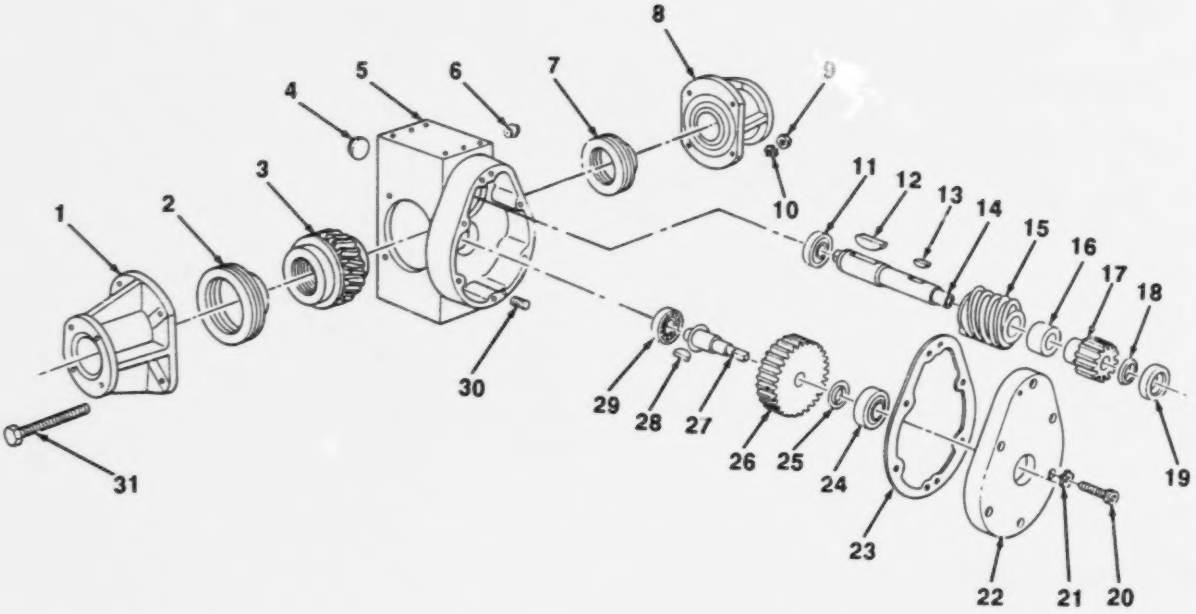
- Dry cleaning solvent (Item 7, Appendix E)
- Gasket forming compound (Item 8, Appendix E)
- Grease (Item 9, Appendix E)
- Rags (Item 14, Appendix E)
- Marker tags (Item 15, Appendix E)
- One gasket
- Ten lockwashers

a. DISASSEMBLY

NOTE

Tag bearings (11, 19, 24, and 29) for assembly. DO NOT mix bearings.

1. Remove six screws (20) and lockwashers (21) from cover (22). Carefully rmmove cover from box (5). Discard lockwashers.
2. Remove gasket (23) and two straight pins (30) from box (5). Discard gasket.



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5-6. LEVELING JACK GEARBOX REPAIR (M514) (Con't).

3. Remove shouldered shaft (27) with attached parts from box (5).

4. Press out outer bearing (24).

5. Remove shouldered washer (25), spur gear (26), and woodruff key (28).

6. Press out inner bearing (29).

NOTE

Screw (31) to be removed is one nearest cover of worm gear (3).

7. Remove nut (9), lockwasher (10), and screw (31) from box (5). Discard lockwasher.

8. Remove shouldered shaft (14) with attached parts from box (5).

9. Press shouldered shaft (14) out of outer bearing (19).

10. Remove shouldered washer (18) and spur gear (17).

11. Remove woodruff key (13) and spacer (16) from shouldered shaft (14).

12. Press shouldered shaft (14) out of worm gear (15) and remove woodruff key (12).

13. Press shouldered shaft (14) out of inner bearing (11).

14. Remove three remaining nuts (9), lockwashers (10), and screws (31). Remove support (1), upper thrust bearing (2), and worm gear (3) from box (5). Discard lockwashers.

15. Remove support (8) and lower thrust bearing (7) from box (5).

16. Remove lubricating fitting (6) from box (5).

17. If expansion plug (4) is loose or damaged, drive out from inside of box and discard.

b. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-130°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Clean all parts with dry cleaning solvent and dry thoroughly.

2. Inspect bearings in accordance with TM 9-214.

3. Check for excessive backlash between two spur gears.

4. Inspect all gears for nicked, worn, or otherwise damaged teeth. Replace if damaged.

5. Inspect all other parts for cracks, breaks, corrosion, or other damage. Replace all damaged parts.

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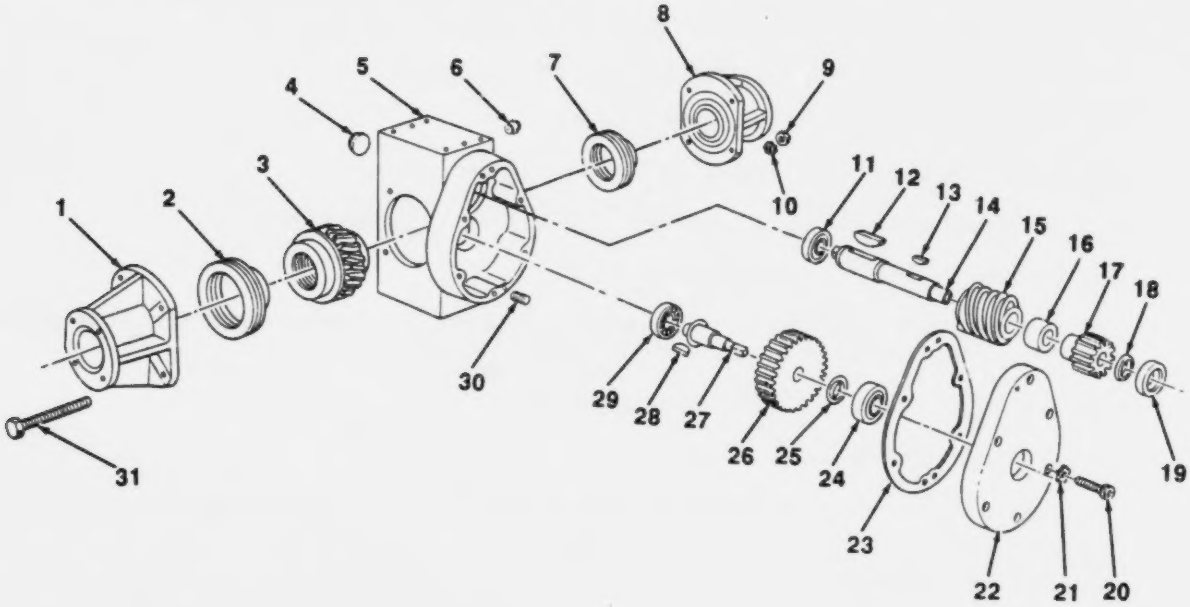
5-6. LEVELING JACK GEARBOX REPAIR (M514) (Con't).

c. ASSEMBLY

CAUTION

Inside diameters of lower thrust bearing (7) two races are different. The race with the larger inside diameter must be up, against worm gear (3). Improper installation will result in damage to thrust bearings and worm gear.

1. Stand support (8) on end and position lower thrust bearing (7) on support.



2. Position box (5) over thrust bearing (7) and support (8).

3. Lubricate worm gear (3) and upper and lower thrust bearings (2 and 7) liberally with grease. Install worm gear, small end down, in box (5) on lower thrust bearing (7).

CAUTION

Inside diameters of upper thrust bearing (2) two races are different. The race with the larger inside diameter must be down, against worm gear (3). Improper installation will result in damage to thrust bearings and worm gear.

4. Install upper thrust bearing (2) on worm gear (3).

5. Position support (1) over upper thrust bearing (2) on box (5). Aline holes in box and supports and install three screws (31), new lockwashers (10), and nuts (9). Do not install screw nearest cover of worm gear (3). Ensure that worm gear turns freely in box.

TA504733

5-6. LEVELING JACK GEARBOX REPAIR (M514) (Con't).

6. Install inner bearing (11) on shouldered shaft (14).

7. Install woodruff key (12) in shouldered shaft (14). Aline worm gear (15) with woodruff key and press worm gear onto shaft.

8. Install spacer (16) and woodruff key (13).

9. Aline spur gear (17) with woodruff key (13) and press onto shouldered shaft (14) against spacer (16).

10. Install shouldered washer (18) on shouldered shaft (14). Press outer bearing (19) onto shaft.

11. Position shouldered shaft (14) with attached parts inside box (5). Install remaining screw (31), new lockwasher (10), and nut (9).

12. Press inner bearing (29) onto shouldered shaft (27) until seated against shoulder.

13. Install woodruff key (28) in shouldered shaft (27). Press spur gear (26) onto shouldered shaft and woodruff key until seated against shoulder.

14. Install shouldered washer (25) on shouldered shaft (27). Press outer bearing (24) onto shouldered shaft against shouldered washer.

15. Position shouldered shaft (27) with attached parts inside box (5). Lubricate gears with grease.

16. Install two straight pins (30) and new gasket (23) on box (5).

17. Work cover (22) onto outer bearings (19 and 24) and straight pins (30) and push onto box (5) against gasket (23).

18. Secure cover (22) to box (5) with six new lockwashers (21) and screws (20).

19. Install lubricating fitting (6) in box (5).

20. If expansion plug (4) was removed, apply gasket forming compound to seat in rear of box (5). Drive new expansion plug into place.

21. Ensure that gears turn smoothly.

FOLLOW-ON TASKS:

- Install leveling jack (para 4-51).
- Lubricate leveling jack gearbox (Chapter 3, Section I).

5-7. LEVELING JACK REPAIR (M390C).

This Task Covers:

a. Disassembly
b. Cleaning and Inspection
c. Assembly

Initial Setup:

Equipment Conditions:

- Leveling jack removed (para 4-55).

Tools/Test Equipment:

- General mechanic's tool kit

Materials/Parts:

- Dry cleaning solvent (Item 7, Appendix E)
- Grease (Item 9, Appendix E)
- Lubricating oil (Item 13, Appendix E)
- Rags (Item 14, Appendix E)
- One locknut
- One spring pin
- Two seals
- Four headless pins
- Four lockwashers

a. DISASSEMBLY

1. Using handcrank, extend leveling jack as far as it will go. Remove handcrank.

2. Remove four screws (3), lockwashers (2), and cover (1) from housing (30). Discard lockwashers.

3. Remove bearing (6) from bevel gear (7).

4. Press in on latch (12) and remove pinion gear (8) from housing (30). Remove thrust washer (9) from pinion gear.

5. Remove spring pin (11) from pinion gear (8). Remove latch (12) and spring (10) from pinion gear. Discard spring pin.

6. Gently press down on housing (30) until headless pin (22) can be removed from bevel gear (7) and screw (21). Remove and discard headless pin.

7. Remove bevel gear (7) and collar (31) from screw (21).

8. Remove two screws (17), cover (18), key (16), and seal (19) from housing (30). Discard seal.

9. Hold shoe (25) and pull screw (21) and inner tube (24) out of housing (30).

10. Remove two headless pins (23) securing nut (20) to inner tube (24). Remove nut and screw (21) from inner tube. Discard headless pins.

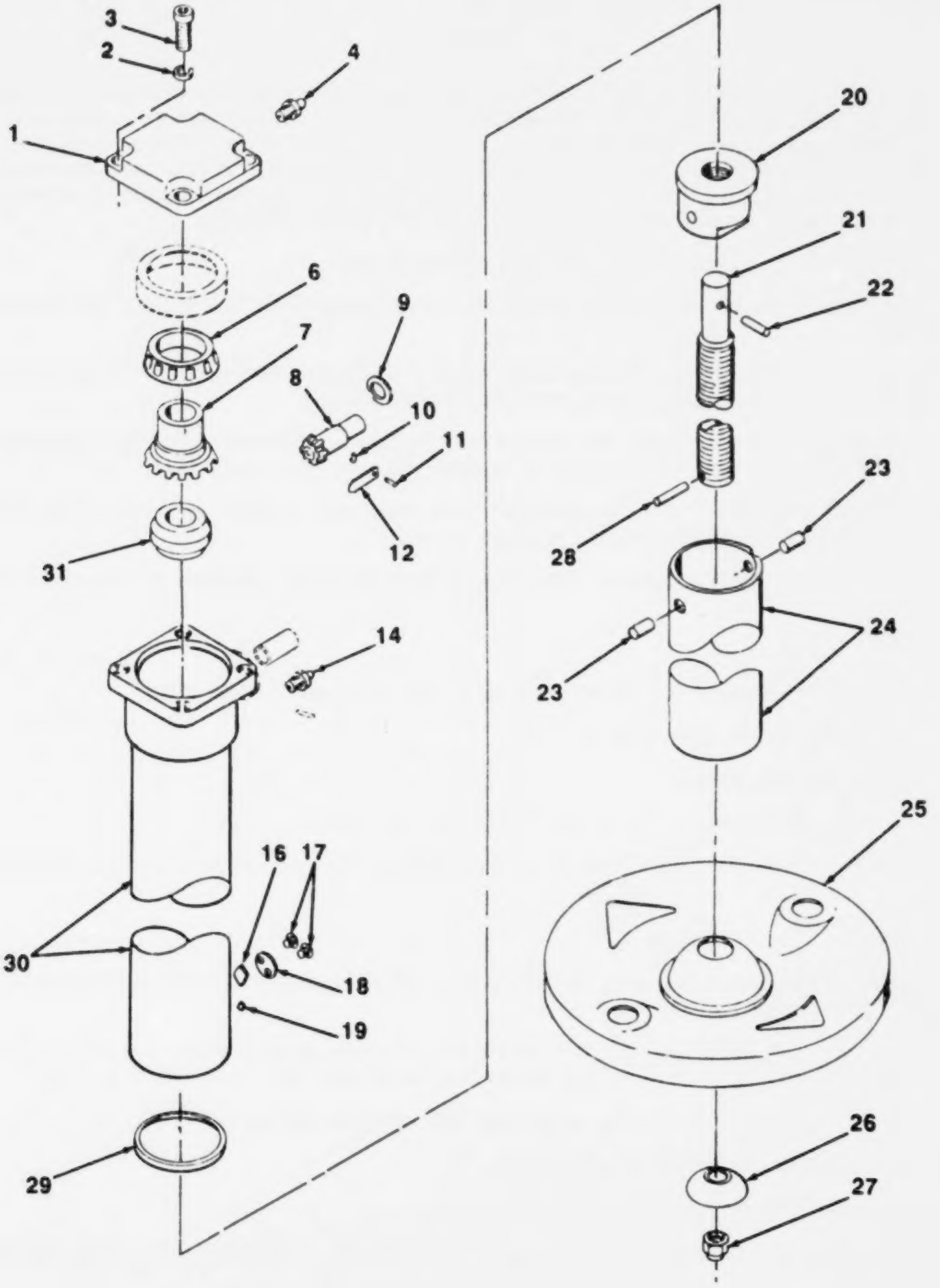
11. Remove nut (20) and headless pin (28) from screw (21). Discard headless pin.

12. Remove locknut (27), retainer (26), and shoe (25) from inner tube (24). Discard locknut.

13. Remove seal (29) from inside housing (30). Discard seal.

14. Remove lubricating fitting (4) from cover (1). Remove lubricating fitting (14) from housing (30).

5-7. LEVELING JACK REPAIR (M390C) (Con't).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5-7. LEVELING JACK REPAIR (M390C) (Con't).

b. CLEANING AND INSPECTION

WARNING

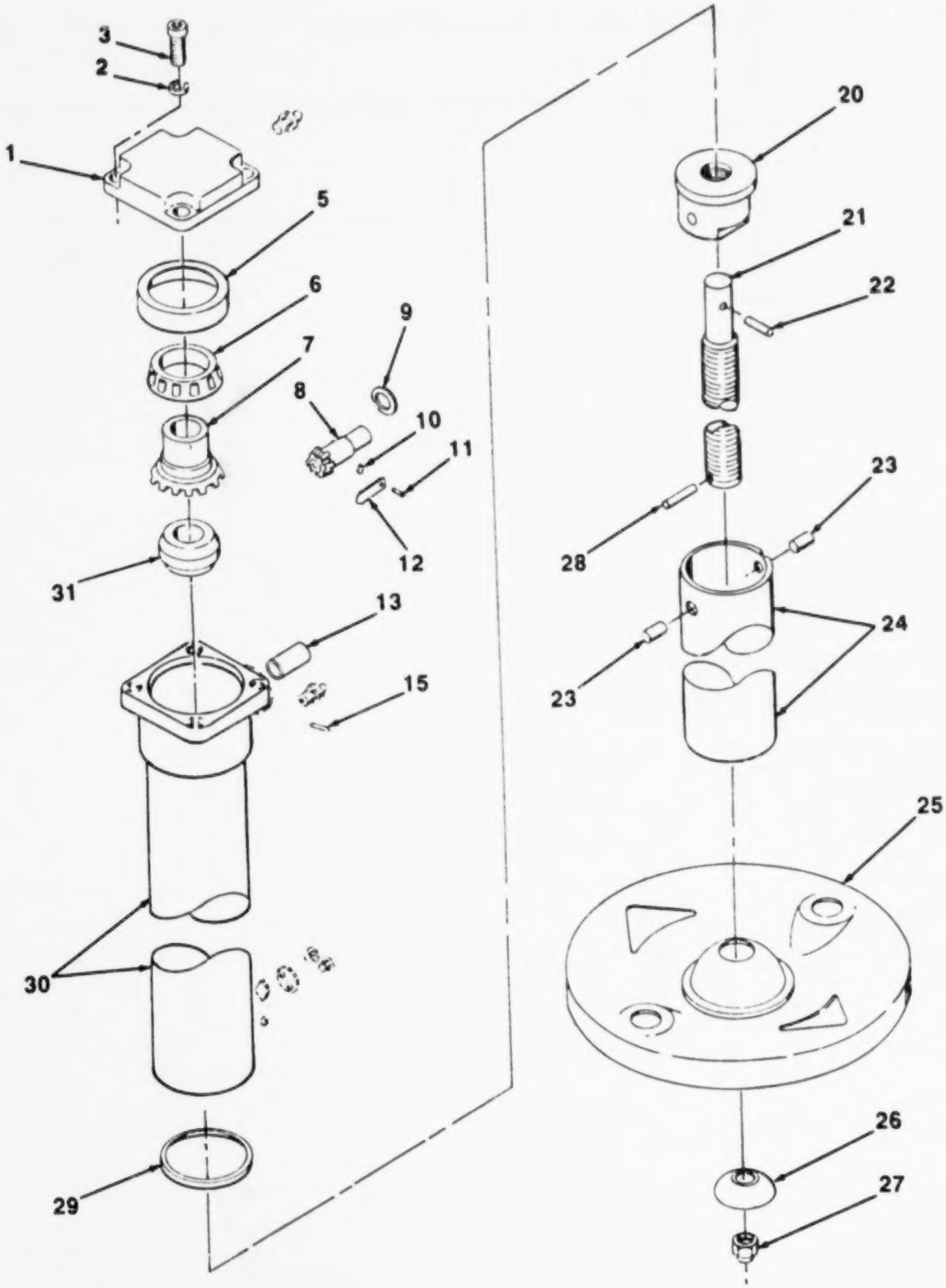
Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F-130°F (38°C-59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Clean all parts with dry cleaning solvent and dry thoroughly.
2. Clean and inspect bearing in accordance with TM 9-214. If damaged, bearing cup (5) in cover must also be replaced.
3. Inspect sleeve bearing (13) in housing for damage. If damaged, remove pin (15) and press out sleeve bearing. Press in new sleeve bearing and secure with new pin.
4. Inspect bevel gear and pinion gear for cracked or broken teeth. Small nicks can be smoothed or removed with a fine mill file. If teeth are cracked or broken, replace gears as a set.
5. Inspect screw for broken or stripped threads. Small nicks can be removed or smoothed with a fine mill file. If threads are broken or stripped, replace screw.
6. Inspect all parts for cracks, breaks, corrosion, or other damage. Replace all damaged parts.

c. ASSEMBLY

1. Install shoe (25) and retainer (26) on inner tube (24) with new locknut (27).
2. Install new headless pin (28) in screw (21).
3. Coat screw (21) with grease.
4. Install nut (20) onto screw (21). Leave nut halfway up screw.
5. Install screw (21) and nut (20) in inner tube (24). Secure nut to inner tube with two new headless pins (23).
6. Install new seal (29) in housing (30).
7. Coat outside of inner tube (24) with lubricating oil. Slide inner tube into housing (30) so that screw (21) protrudes from top of housing.
8. Install collar (31) and bevel gear (7) over screw (21). Secure bevel gear to screw with new headless pin (22). Hold shoe (25) and carefully pull screw and bevel gear down into housing (30).
9. Install spring (10) and latch (12) in pinion gear (8) with new spring pin (11).
10. Install thrust washer (9) on pinion gear (8).
11. Coat pinion gear (8) and bevel gear (7) with grease.
12. Compress latch (12) and install pinion gear (8) in housing (30). Ensure that pinion gear meshes with bevel gear (7).
13. Install bearing (6) on bevel gear (7) with large diameter end facing bevel gear.
14. Install cover (1) on housing (30) with four new lockwashers (2) and screws (3).

5-7. LEVELING JACK REPAIR (M390C) (Con't).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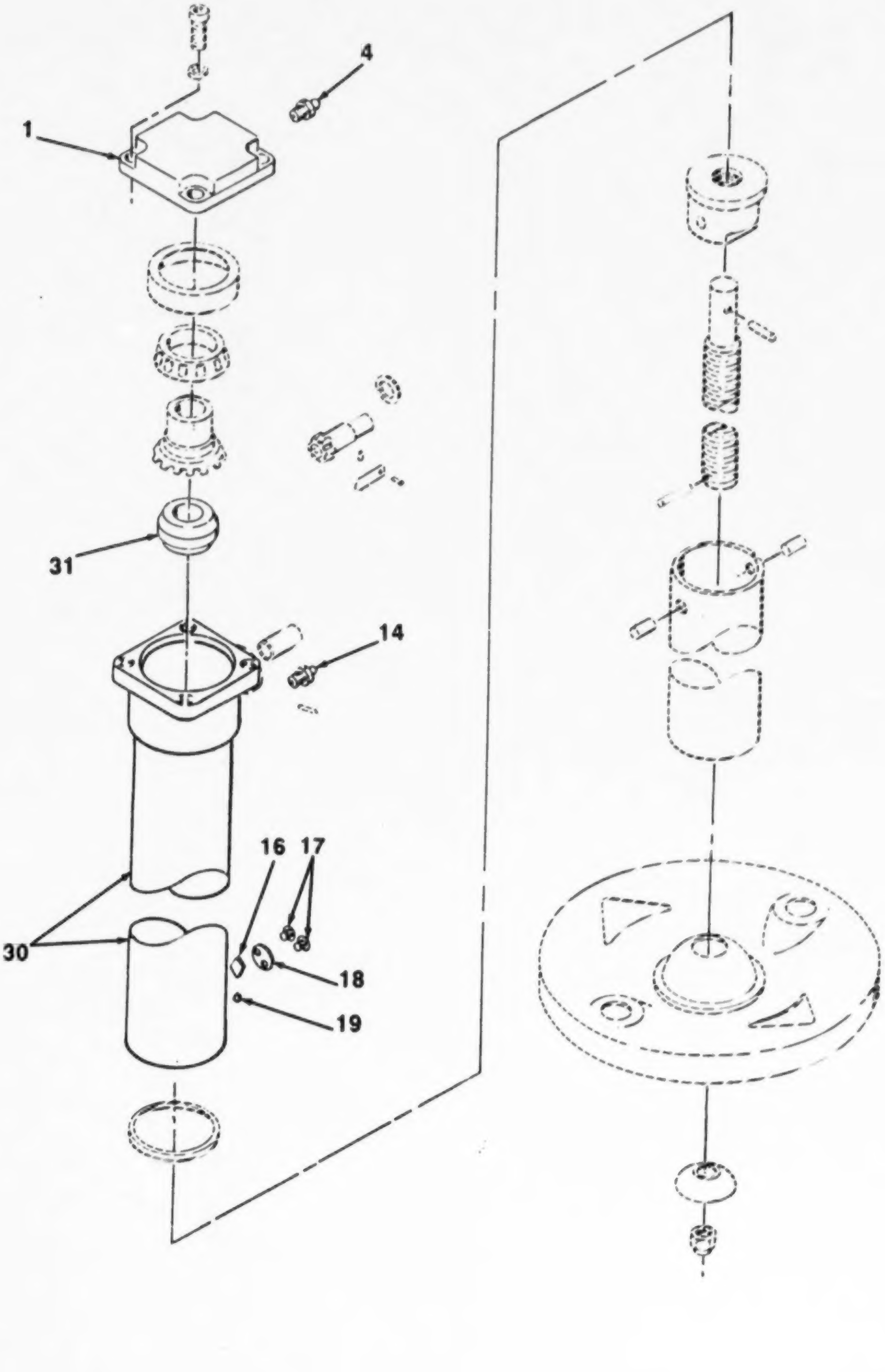
5-7. LEVELING JACK REPAIR (M390C) (Con't).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5-7. LEVELING JACK REPAIR (M390C) (Con't).

15. Install lubricating fitting (4) in cover (1). Install lubricating fitting (14) in housing (30).

16. Apply gasket forming compound to cover (18). Install new seal (19), key (16), and cover on housing (30) with two screws (17).

17. Using handcrank, retract leveling jack as far as possible.

FOLLOW-ON TASKS:

- Lubricate leveling jack (Chapter 3, Section I).
- Install leveling jack (para 4-55).

5-8. DOUBLE-SWIVELING LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M390C).

This Task Covers:

a. Removal
b. Disassembly
c. Cleaning and Inspection
d. Assembly
e. Installation

Initial Setup:

Equipment Conditions:

- Leveling jack removed (para 4-55).

Tools/Test Equipment:

- General mechanic's tool kit

Personnel Required: Two

Materials/Parts:

- Dry cleaning solvent (Item 7, Appendix E)
- Rags (Item 14, Appendix E)
- Marker tags (Item 15, Appendix E)
- Thirty lockwashers

a. REMOVAL

NOTE

Step 1 is for front leveling jack support assembly only.

1. Remove three screws (11) and lockwashers (10) from rear of leveling jack support assembly. Remove screw (13) and lockwasher (12) from front center hole. Remove two screws (14), lockwasher (15), and flatwasher (16) from outside front holes. Remove front leveling jack support assembly from frame.

NOTE

Step 2 is for rear leveling jack support assemblies only.

2. Remove six screws (14) and lockwashers (15) securing rear leveling jack support assembly to frame. Remove rear leveling jack support assembly. Discard lockwashers.

b. DISASSEMBLY

1. Remove six bolts (20), lockwashers (19), and cover (18) from housing (17). Discard lockwashers.

2. Remove nut (33), flatwasher (34), and spring (32) from end of each screw (37) extending through two locking levers (31). Remove two screws (37) from inside housing (17).

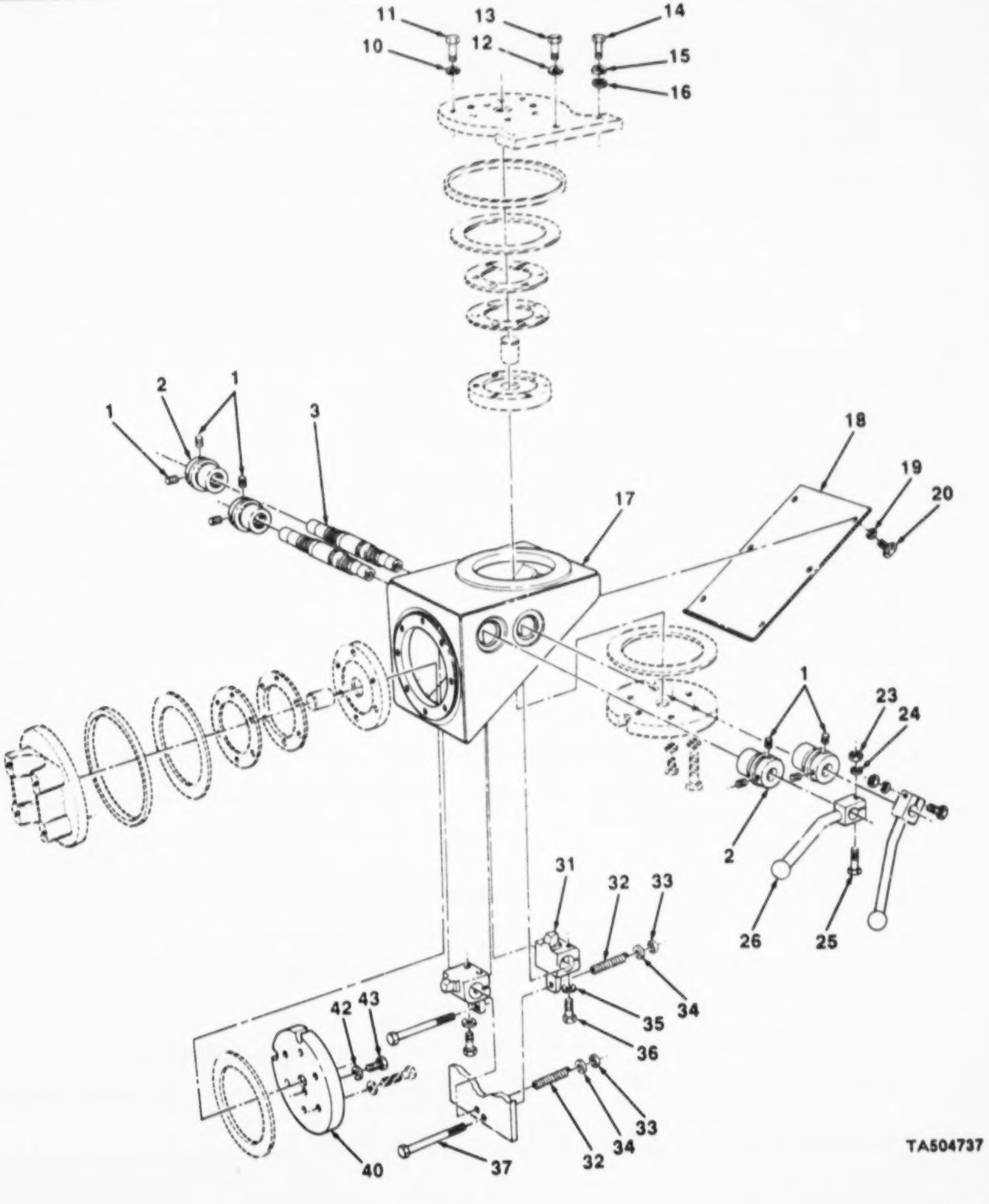
3. Remove two nuts (23), lockwashers (24), screws (25), and levers (26) from ends of two shouldered shafts (3). Discard lockwashers.

4. Remove eight setscrews (1) from four adjusting nuts (2). Remove adjusting nuts from shouldered shafts (3).

5. Remove four screws (36) and lockwashers (35) from two locking levers (31) on centers of shouldered shafts (3). While holding locking levers, pull shouldered shafts (3) from housing (17). Remove locking levers. Discard lockwashers.

6. Remove bolt (43) and flatwasher (42) from plate (40) inside housing (17).

5-8. DOUBLE-SWIVELING LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M390C) (Con't).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5-8. DOUBLE-SWIVELING LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M390C) (Con't).

NOTE

Tag and tie shims (46) together for use during assembly.

7. Remove six screws (38) and lockwashers (39) from plate (40) inside housing (17). Remove plate, bearing (41), pilot (44), dowel (45), shims (46), bearing (47), guard (48), and bracket (49). Discard lockwashers.

8. Remove bolt (29) and flatwasher (30) from plate (22) inside housing (17). Discard lockwasher.

NOTE

Tag and tie shims (6) together for use during assembly.

9. Remove six screws (28) and lockwashers (27) from plate (22) inside housing (17). Remove plate, bearing (21), pilot (4), dowel (5), shims (6), bearing (7), guard (8), and plate (9). Discard lockwashers.

c. CLEANING AND INSPECTION

WARNING

Dry cleaning solvent P-D-680 is toxic and flammable. Always wear protective goggles and gloves, and use only in a well-ventilated area. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. DO NOT use near open flame or excessive heat. The solvent's flash point is 100°F–130°F (38°C–59°C). If you become dizzy while using cleaning solvent, immediately get fresh air and medical help. If solvent contacts eyes, immediately wash your eyes and get medical aid.

1. Clean all parts with dry cleaning solvent and dry thoroughly.

2. Inspect shouldered shafts for nicks or distortion.

3. Inspect locking levers for cracks or wear.

4. Inspect mating surfaces of plates, bearings, pilots, and bracket or plate for roughness or wear.

5. Inspect all parts for cracks, breaks, corrosion, or other damage. Replace all damaged parts.

d. ASSEMBLY

NOTE

Assistance is required for steps 1 through 8.

1. Position pilot (44) in opening inside housing (17). Position dowel (45) in center of pilot.

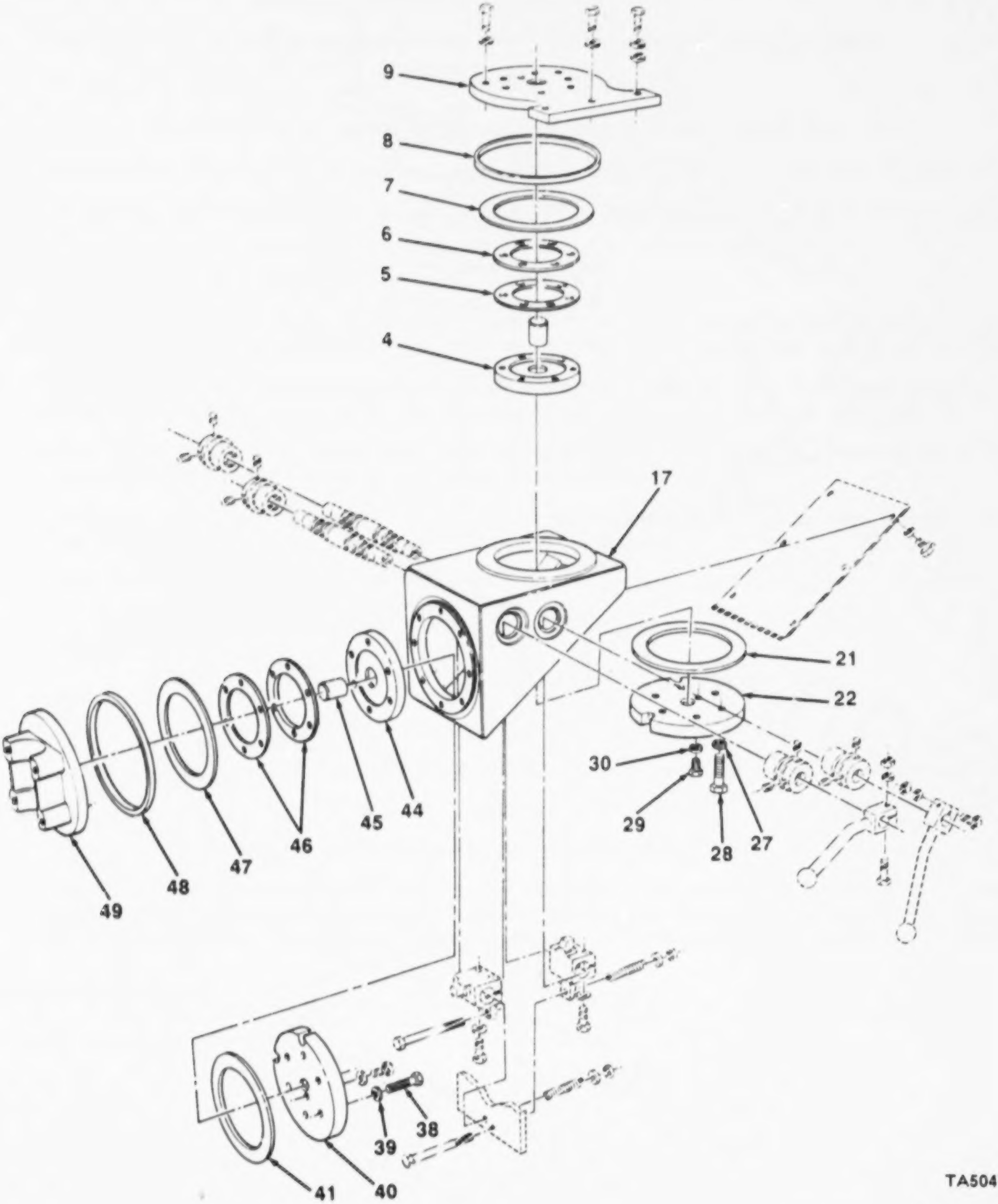
NOTE

Ensure that same number of shims (46) as were removed are installed.

2. Position shims (46), bearing (47), guard (48), and bracket (49) against pilot (44) on outside of housing (17).

3. Position bearing (41) and plate (40) on inside of housing (17). Install six new lockwashers (39) and screws (38).

5-8. DOUBLE-SWIVELING LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M390C) (Con't).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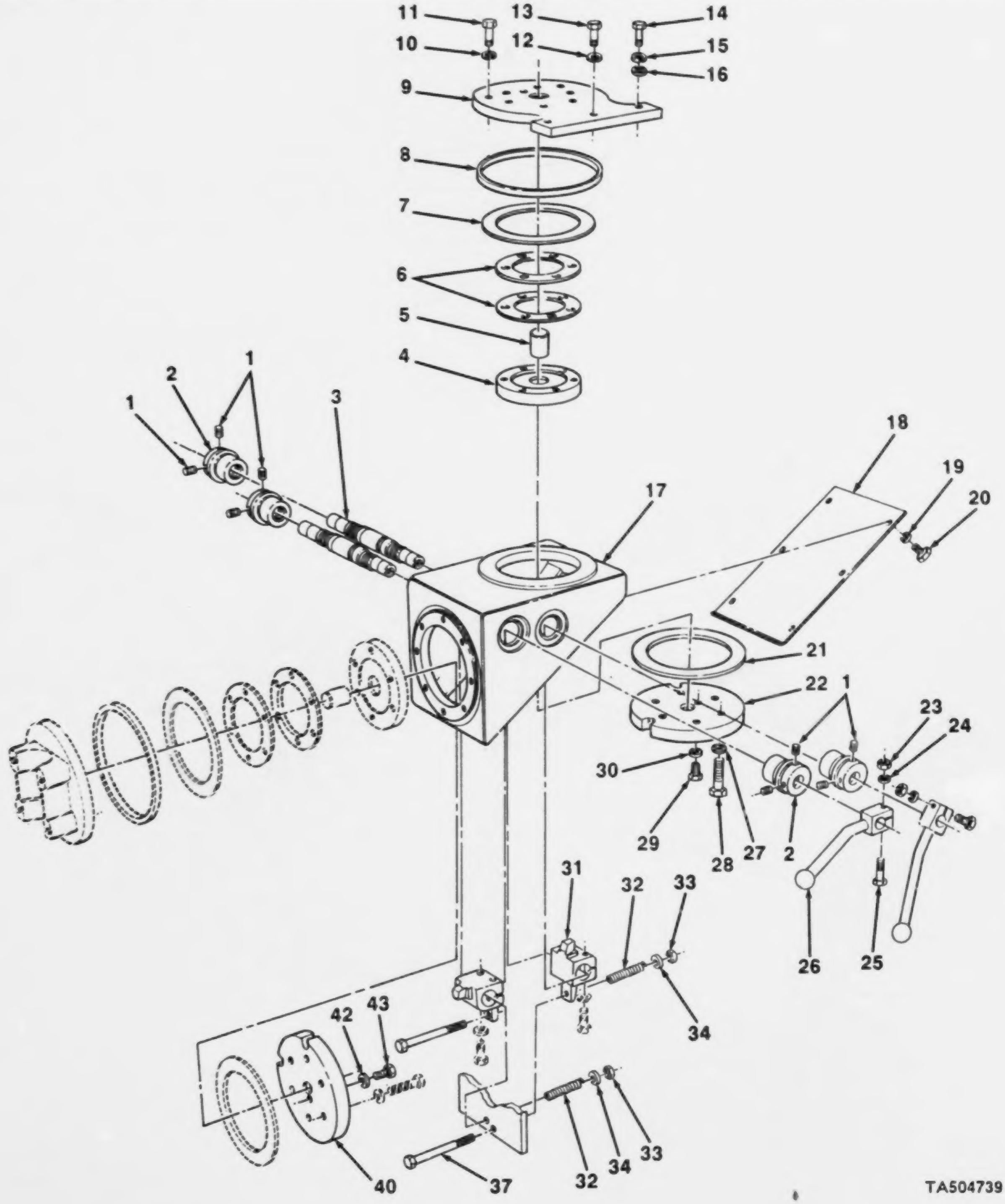
5-8. DOUBLE-SWIVELING LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M390C) (Con't).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5-8. DOUBLE-SWIVELING LEVELING JACK SUPPORT ASSEMBLY MAINTENANCE (M390C) (Con't).

4. Install bolt (43) and flatwasher (42) in center of plate (40).

5. Position pilot (4) in opening in top of housing (17). Position dowel (5) in center of pilot.

NOTE

Ensure that same number of shims (6) as were removed are installed.

6. Position shims (6), bearing (7), guard (8), and plate (9) against pilot (4) on outside of housing (17).

7. Position bearing (21) and plate (22) on inside of housing (17). Install six new lockwashers (27) and screws (28).

8. Install flatwasher (30) and bolt (29) in center of plate (22).

9. Position two shouldered shafts (3) through openings in housing (17). Install two locking levers (31) on shafts inside housing. Ensure that locking lugs on each locking lever engage slots in plates (22 and 40).

10. Continue pushing shouldered shafts (3) through housing (17) until centered in housing. Install four adjusting nuts (2) on ends of shafts. Secure each adjusting nut to shaft with two setscrews (1).

11. Install screw (37) through locking lever (31) and bracket inside housing (17). Install spring (32), flatwasher (34), and nut (33) on screw. Repeat for remaining locking lever.

12. Install lever (26) on end of shouldered shaft (3) with screw (25), new lockwasher (24), and nut (23). Repeat for remaining lever.

13. Install cover (18) on housing (17) with six new lockwashers (19) and bolts (20).

e. INSTALLATION

NOTE

Step 1 is for rear leveling jack support assemblies only.

1. Position leveling jack support assembly for installation. Install six new lockwashers (15) and screws (14).

NOTE

Step 2 is for front leveling jack support assembly only.

2. Position front leveling jack support assembly for installation. Install three new lockwashers (10) and screws (11) to rear of leveling jack support assembly. Install new lockwasher (12) and screw (13) in front center hole. Install two flatwashers (16), new lockwashers (15), and screws (14) in outside front holes.

FOLLOW-ON TASKS:

- Install leveling jack (para 4-55).

APPENDIX A
REFERENCES

A-1. SCOPE.

This appendix lists all forms, field manuals, technical bulletins, technical manuals, and other publications referenced in this manual and which apply to the operation and maintenance of the M514 and M390C Chassis Trailers.

A-2. PUBLICATION INDEX.

DA Pam 25-30, *Consolidated Index of Army Publications and Blank Forms*, should be consulted frequently for latest changes or revisions and for new publications relating to materiel covered in this technical manual.

A-3. FORMS.

Refer to DA Pam 738-750, *The Army Maintenance Management System (TAMMS)*, for instructions on the use of maintenance forms.

Equipment Inspection and Maintenance Worksheet	DA Form 2404
Equipment Log Assembly (Records)	DA Form 2408
Maintenance Request	DA Form 2407
Preventive Maintenance Schedule and Record	DD Form 314
Processing and Deprocessing Record for Shipment, Storage, and Issue of Vehicles and Spare Engines	DD Form 1397
Product Quality Deficiency Report	SF 368
Recommended Changes to Equipment Technical Publications	DA Form 2028-2
Recommended Changes to Publications and Blank Forms	DA Form 2028
Report of Discrepancy (ROD)	SF 364

A-4. FIELD MANUALS.

Army Motor Transport Units and Operations	FM 55-30
Basic Cold Weather Manual	FM 31-70
Camouflage	FM 5-20
Desert Operations	FM 90-3
First Aid for Soldiers	FM 21-11
Manual for the Wheeled Vehicle Driver	FM 21-305
NBC Decontamination	FM 3-5
Northern Operations	FM 31-71
Operation and Maintenance of Ordnance Materiel in Cold Weather (0°F to −65°F)	FM 9-207

A-5. TECHNICAL BULLETINS.

Color, Marking, and Camouflage Painting of Military Vehicles, Construction Equipment, and Materials Handling Equipment	TB 43-0209
Hand Portable Fire Extinguishers Approved for Army Users	TB 5-4200-200-10
Tactical Wheeled Vehicles: Repair of Frames	TB 9-2300-247-40

A-6. TECHNICAL MANUALS.

Deepwater Fording of Ordnance Materiel	TM 9-238
Inspection, Care, and Maintenance of Antifriction Bearings	TM 9-214
Materials Used for Cleaning, Preserving, Abrading, and Cementing Ordnance Materiel and Related Materials Including Chemicals	TM 9-247
Operator's Manual for Welding Theory and Application	TM 9-237
Organizational, Direct Support, and General Support Maintenance Care, Maintenance, and Repair of Pneumatic Tires and Inner Tubes	TM 9-2610-200-24
Painting Instructions for Field Use	TM 43-0139
Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use	TM 750-244-6
Railcar Loading Procedures	TM 55-601
Railway Operating and Safety Rules	TM 55-200
Storage and Materials Handling	TM 743-200-1

A-7. ARMY REGULATIONS.

Army Logistics Readiness and Sustainability	AR 700-138
Army Medical Department Expendable/Durable Items	CTA 8-100
Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items)	CTA 50-970

APPENDIX B
MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

B-1. GENERAL.

a. This section provides a general explanation of all maintenance and repair functions authorized at the various maintenance levels.

b. The Maintenance Allocation Chart (MAC) in Section II designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component will be consistent with the capacities and capabilities of the designated maintenance levels.

c. Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from Section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

B-2. MAINTENANCE FUNCTIONS.

Maintenance functions will be limited to and defined as follows:

a. **Inspect.** To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).

b. **Test.** To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. **Service.** Operations required periodically to keep an item in proper operating condition, i.e., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.

d. **Adjust.** To maintain or regulate, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. **Aline.** To adjust specified variable elements of an item to bring about optimum or desired performance.

f. **Calibrate.** To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. **Remove/Install.** To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. **Replace.** To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and is shown as the third position of the SMR code.

i. **Repair.** The application of maintenance services, including fault location/troubleshooting, removal/installation, and disassembly/assembly procedures, and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

B-2. MAINTENANCE FUNCTIONS (Con't).

j. **Overhaul.** That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications (i.e., DMWR). Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. **Rebuild.** Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipment/components.

B-3. EXPLANATION OF COLUMNS IN THE MAC, SECTION II.

a. **Column 1, Group Number.** Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly. End item group number shall be "00."

b. **Column 2, Component/Assembly.** Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. **Column 3, Maintenance Function.** Column 3 lists the functions to be performed on the item listed in Column 2. (For a detailed explanation of these functions, refer to paragraph B-2.)

d. **Column 4, Maintenance Level.** Column 4 specifies, by the listing of a *work time* figure in the appropriate subcolumn(s), the level of maintenance authorized to perform the function listed in Column 3. This figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance levels, appropriate work time figures will be shown for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the Maintenance Allocation Chart. The symbol designations for the various maintenance levels are as follows:

C ..... Unit (Operator or Crew)
O ..... Unit (Organizational) Maintenance
F ..... Direct Support Maintenance
H ..... General Support Maintenance
D ..... Depot Maintenance

e. **Column 5, Tools and Equipment.** Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, TMDE, and support equipment required to perform the designated function.

f. **Column 6, Remarks.** This column shall, when applicable, contain a letter code, in alphabetic order, which shall be keyed to the remarks contained in Section IV.

B-4. EXPLANATION OF COLUMNS IN TOOL AND TEST EQUIPMENT REQUIREMENTS, SECTION III.

a. **Column 1, Tool or Test Equipment Reference Code.** The tool and test equipment reference code correlates with a code used in the MAC, Section II, Column 5.

b. **Column 2, Maintenance Level.** The lowest level of maintenance authorized to use the tool or test equipment.

B-4. EXPLANATION OF COLUMNS IN TOOL AND TEST EQUIPMENT REQUIREMENTS, SECTION III (Con't).

c. **Column 3, Nomenclature.** Name or identification of the tool or test equipment.

d. **Column 4, National/NATO Stock Number.** The National or NATO Stock Number of the tool or test equipment.

e. **Column 5, Tool Number.** The manufacturer's part number.

B-5. EXPLANATION OF COLUMNS IN REMARKS, SECTION IV.

a. **Column 1, Reference Code.** The code recorded in Column 6, Section II.

b. **Column 2, Remarks.** This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

Section II. MAINTENANCE ALLOCATION CHART

(1)	(2)	(3)	(4)					(5)	(6)
			Maintenance Level						
			Unit		DS	GS	Depot		
Group Number	Component/Assembly	Maintenance Function	C	O	F	H	D	Tools and Equipment	Remarks
06	**ELECTRICAL SYSTEM**								
0609	*Blackout, Stoplight and Tail Stoplight*	Replace		0.2				1,2,3	
		Repair		0.2				1,2,3	A
	Composite Light	Replace		0.2				1,2,3	
		Repair		0.2				1,2,3	A
0613	*Chassis Wiring Harness*	Replace		0.5				1,2,3	
		Repair		0.5				1,2,3	B
	Intervehicular Cable	Replace		0.2				1,2,3	
		Repair		0.2				1,2,3	B
11	**REAR AXLE**								
1100	*Axle Assembly*	Replace		5.0				1,2,3	
12	**BRAKES**								
1201	*Handbrake*								
	Lever Assembly	Adjust	0.2						
		Replace		1.0				1,2,3	
	Cable, Handbrake	Service		0.2				1,2,3	
		Replace		1.5				1,2,3	
1202	*Service Brakes*	Adjust		0.2				1,2,3	
	Brakeshoes	Replace		1.3				1,2,3	
		Repair		1.5				1,2,3	C

Section II. MAINTENANCE ALLOCATION CHART (Con't)

(1)	(2)	(3)	(4)					(5)	(6)
			Maintenance Level						
			Unit		DS	GS	Depot		
Group Number	Component/Assembly	Maintenance Function	C	O	F	H	D	Tools and Equipment	Remarks
1204	*Hydraulic Brake System*								
	Master Cylinder	Service		0.2				1,2,3	
		Replace		1.5				1,2,3	
	Wheel Cylinder	Replace		1.5				1,2,3	
	Hydraulic Lines and Fittings	Replace		1.5				1,2,3	
1208	*Airbrake System*								
	Couplings	Replace		0.2				1,2,3	
	Lines, Fittings, and Hoses	Replace		1.5				1,2,3	
	Filter, Air	Replace		0.5				1,2,3	
		Repair		1.0				1,2,3	
	Chamber, Brake	Replace		1.0				1,2,3	
		Repair		1.0				1,2,3	
13	**WHEELS**								
1301	*Suspension Assembly*								
	Arm, Suspension	Replace		2.0				1,2,3	
	Linkage and Anchor	Adjust		1.0				1,2,3	
1311	*Wheel Assembly*								
	Bearing, Hub	Service		1.5				1 2,3	
		Adjust		0.5				1,2,3	
		Replace		1.5				1,2,3	
	Hub	Replace		1.5				1,2,3	
		Repair		1.0					
	Brakedrum	Replace		1.0				1,2,3	
		Repair			1.5			1,4	D
	Wheel	Replace		0.5				1,2,3	
1313	*Tires and Tubes*								
	Tires	Replace		2.0				1,2,3	
		Repair			2.0			1,4	E
	Tubes	Replace		2.0				1,2,3	
		Repair		1.0				1,2,3	E

Section II. MAINTENANCE ALLOCATION CHART (Con't)

(1) Group Number	(2) Component/Assembly	(3) Maintenance Function	(4) Maintenance Level Unit C	Unit O	DS F	GS H	Depot D	(5) Tools and Equipment	(6) Remarks
15	**FRAME AND TOWING ATTACHMENTS**								
1501	*Frame Assembly*	Repair			1.5			1,4,5,6	F
1503	*Towing Attachments*	Adjust		0.2				1,2,3	
		Replace		0.5				1,2,3	
1507	*Landing Gear, Leveling Jacks*								
	Retractable Support (M514)	Replace		0.5				1,2,3	
		Repair		1.0				1 2,3	
	Retractable Support (M390C)	Replace		1.0				1,4	
		Repair			1.0			1,4	
	Leveling Jacks	Replace		1.5				1,2,3	
		Repair			1.0			1,4	
	Double-Swiveling Leveling Jack Support Assy (M390C)	Replace		1.5				1,2,3	
		Repair			1.0			1,4	
16	**SPRINGS AND SHOCK ABSORBERS**								
1601	*Springs*	Replace		2.5				1,2,3	
1604	*Shock Absorbers*	Replace		0.6				1,2,3	
1605	*Radius Rods*	Replace		1.0				1,2,3	
18	**BODY**								
1801	*Splash Guards*	Replace		0.5					
1802	*Fenders*	Replace		1.5					F
22	**ACCESSORY ITEMS**								
2202	*Accessory Items*								
	Reflectors	Replace		0.2				1,2,3	
2210	*Data Plates*	Replace		0.2				1,2,3	

Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS

(1) Tool or Test Equipment Reference Code	(2) Maintenance Level	(3) Nomenclature	(4) National/NATO Stock Number	(5) Tool Number
1	O	Tool Kit, General Mechanic's, Automotive	5180-00-177-7033	
2	O	Shop Equipment, Automotive Maintenance and Repair: Organizational Maintenance, Common No. 1, Less Power	4910-00-754-0654	
3	O	Shop Equipment, Automotive Maintenance and Repair: Organizational Maintenance, Common No. 2, Less Power	4910-00-754-0650	
4	F	Shop Equipment, Automotive Maintenance and Repair: Field Maintenance, Supplemental No. 1	4910-00-754-0706	
5	F	Tool Kit, Welder's	5180-00-754-0661	
6	F	Shop Equipment, Welding, Field Maintenance	3470-00-357-7268	

Section IV. REMARKS

(1) Reference Code	(2) Remarks
A	Composite light, taillight, stoplight, and blackout light repair is limited to door, preformed packing, gasket, and lamp replacement.
B	Chassis wiring harness and intervehicular cable assembly repair is limited to terminal, lug, insulator, shell, and hardware replacement.
C	Brakeshoe repair is limited to friction lining and tubular rivet replacement.
D	Brakedrum repair is limited to refacing braking surface using a brakedrum lathe.
E	Refer to TM 9-2610-200-24 for tire and tube repair.
F	Frame, fenders, and body repair consists of welding, straightening, and reconditioning of damaged part or parts.

APPENDIX C
COMPONENTS OF END ITEM AND BASIC ISSUE ITEMS LISTS

Section I. INTRODUCTION

C-1. SCOPE.

This appendix lists components of end item and basic issue items for the M514 and M390C trailers to help you inventory items required for safe and efficient operation.

C-2. GENERAL.

The components of end item and basic issue items lists are divided into the following sections:

a. **Section II. Components of End Item (COEI).** This listing is for informational purposes only, and is not authority to requisition replacements. These items are part of the end item, but are removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item whenever it is issued or transferred between accounts. Illustrations are furnished to assist you in identifying the items.

b. **Section III. Basic Issue Items (BII).** These are the minimum essential items required to place the trailers in operation, to operate them, and to perform emergency repairs. Although shipped separately packaged, BII must be with the trailer during operation and whenever it is transferred between property accounts. The illustrations will assist you with hard-to-identify items. This manual is your authority to request/requisition replacement BII based on TOE/MTOE authorization of the end item.

C-3. EXPLANATION OF COLUMNS.

The following provides an explanation of columns found in the tabular listings:

a. **Column (1) - Illustration Number (Illus Number).** This column indicates the number of the illustration in which the item is shown.

b. **Column (2) - National Stock Number.** Indicates the National stock number assigned to the item and will be used for requisitioning purposes.

c. **Column (3) - Description.** Indicates the federal item name and, if required, a minimum description to identify and locate the item. The last line for each item indicates the Commercial and Government Entity (CAGE) in parentheses followed by the part number. If item needed differs for different models, the model is shown under the "Usable On Code" heading in the column. The Usable On Codes are as follows:

Code	Used On
175	M390C
914	M514

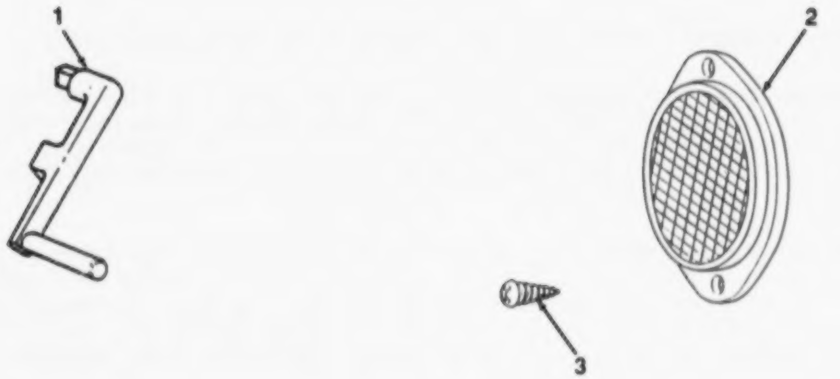
d. **Column (4) - Unit of Measure (U/M).** Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in., pr).

e. **Column (5) - Quantity Required (Qty Rqr).** Indicates the quantity of the item authorized to be used with/on the equipment.

Section II. COMPONENTS OF END ITEM

Not Applicable.

Section III. BASIC ISSUE ITEMS



(1) Illus Number	(2) National Stock Number	(3) Description CAGE and Part Number	Usable on Code	(4) U/M	(5) Qty Rqr
1	2590-00-679-5692	Crank, Hand, Leveling Jack (19207) 8740154	914	ea	3
1	2590-00-860-0533	Crank, Hand, Leveling Jack (19207) 10885456	175	ea	3
2	9905-00-205-2795	Reflector, Indicating, Clearance, Red (96906) MS35387-1	914	ea	2
2	9905-00-202-3639	Reflector, Indicating, Clearance, Yellow (96906) MS35387-2	914	ea	2
3	5305-00-655-9572	Screw, Tapping, Thread Cutting (19207) 171764	914	ea	8

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APPENDIX D
ADDITIONAL AUTHORIZATION LIST

The M514 and M390C Chassis Trailers currently do not have an Additional Authorization List assigned.

APPENDIX E
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

E-1. SCOPE.

This appendix lists expendable/durable supplies and materials you will need to operate and maintain the M514 and M390C Chassis Trailers. This listing is for informational purposes only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, *Expendable/Durable Items (Except Medical, Class V, Repair Parts, and Heraldic Items)*, or CTA 8-100, *Army Medical Department Expendable/Durable Items*.

E-2. EXPLANATION OF COLUMNS.

a. **Column (1)- Item Number.** This number is assigned to the entry in the listing and is referenced in the "Initial Setup" of maintenance paragraphs or narrative instructions to identify the material needed (e.g., Dry cleaning solvent, Item 6, Appendix E).

b. **Column (2)- Level.** This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew
O - Unit (Organizational) Maintenance
F - Direct Support Maintenance
H - General Support Maintenance

c. **Column (3) - National Stock Number.** This is the National Stock Number assigned to the item; use it to request or requisition the item.

d. **Column (4) - Description.** Indicates the Federal Item Name and , if required, a description to identify the item. The last line for each item indicates the Commercial and Government Entity (CAGE) in parentheses followed by the part number.

e. **Column (5) - Unit of Measure (U/M).** Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in., pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
1	O		Adhesive (81348) MMM-A-121	
		8040-00-714-8223	2-Ounce Tube	oz
2	O		Adhesive (81348) MMM-A-1617	
		8040-00-052-3399	4-Ounce Can	oz
3	O		Barrier Material, Greaseproofed-Waterproofed, Flexible (81349) MIL-B-121	
		8135-00-171-0930	100-Yard Roll	yd
4	O		Brake Fluid, Automotive (81349) MIL-B-46176	
		9150-01-102-9455	1-Gallon Can	gl
		9150-01-123-3152	5-Gallon Can	gl
		9150-01-072-8379	55-Gallon Drum	gl
5	C		Chalk, Marking (81348) SS-C-255	
		7510-00-223-6701	1 Gross	gr
6	C		Detergent, General Purpose (81349) MIL-D-16791	
		7930-00-282-9699	1-Gallon Can	gl
7	C		Dry Cleaning Solvent, Type II (81348) P-D-680	
		6850-00-281-1985	1-Gallon Can	gl
		6850-00-274-5421	5-Gallon Can	gl
		6850-00-285-8011	55-Gallon Drum	gl
8	O		Gasket Forming Compound (81349) MIL-S-45180	
		8030-00-247-2524	2-Ounce Tube	oz
		8030-00-220-6973	4-Ounce Tube	oz

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (Con't)

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
9	C		Grease, Automotive and Artillery (81349) MIL-G-10924	
		9150-00-935-1017	14-Ounce Can	oz
		9150-00-190-0904	1.75-Pound Can	lb
		9150-00-190-0905	6.5-Pound Can	lb
10	O		Lubricating Oil, Engine, OE/HDO-10 (81349) MIL-L-2104	
		9150-00-189-6727	1-Quart Can	qt
		9150-00-186-6668	5-Gallon Can	gl
		9150-00-191-2772	55-Gallon Drum	gl
11	O		Lubricating Oil, Engine, OE/HDO-30 (81349) MIL-L-2104	
		9150-00-186-6681	1-Quart Can	qt
		9150-00-188-9858	5-Gallon Can	gl
		9150-00-189-6729	55-Gallon Drum	gl
12	O		Lubricating Oil, Engine, OEA (81349) MIL-L-46167	
		9150-00-402-4478	1-Quart Can	qt
		9150-00-402-2373	5-Gallon Can	gl
		9150-00-491-7197	55-Gallon Drum	gl
13	O		Lubricating Oil, General Purpose (81349) MIL-L-3150	
		9150-00-271-8427	4-Ounce Can	oz
		9150-00-231-2361	1-Quart Can	qt
14	C		Rag, Wiping (58536) A-A-531	
		7510-00-223-6701	50-Pound Bale	lb
15	O		Tag, Marker (81349) MIL-T-12755	
		9905-00-537-8954	50 Each	ea

Section II. EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST (Con't)

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
16	O		Tape, Antiseize, ½-Inch Width (81349) MIL-T-27730A	
		8030-00-889-3535	260-Inch Roll	in

APPENDIX F
REPAIR PARTS AND SPECIAL TOOLS LISTS

Section I. INTRODUCTION

F-1. SCOPE.

This RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of organizational, direct support, and general support maintenance of the M514 and M390C Chassis Trailers. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the source, maintenance and recoverability (SMR) codes.

F-2. GENERAL.

In addition to Section I, *Introduction*, this Repair Parts and Special Tools List is divided into the following sections:

a. **Section II. Repair Parts List.** A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materiels are listed in item name sequence. Repair parts kits are listed separately in their own functional group within Section II. Repair parts for reparable special tools are also listed in this section. Items listed are shown on the associated illustration(s)/figure(s).

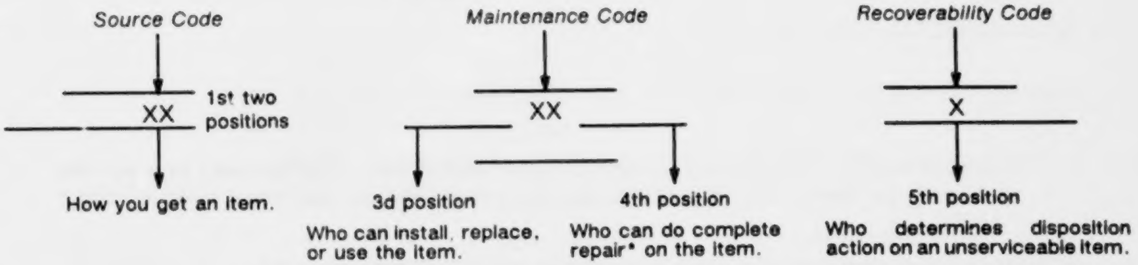
b. **Section III. Special Tools List.** A list of special tcols, special TMDE, and other special support equipment authorized by this RPSTL [as indicated by Basis of Issue (BOI) information in the *DESCRIPTION AND USABLE ON CODE* column] for the performance of maintenance.

c. **Section IV. National Stock Number and Part Number Index.** A list, in National Item Identification Number (NIIN) sequence, of all National stock numbered items appearing in the listing, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration/figure and item number appearance. The figure and item number index lists figure and item numbers in alphanumeric sequence and cross-references NSN, CAGE, and part numbers.

F-3. EXPLANATION OF COLUMNS (SECTIONS II AND III).

a. **ITEM NO. [Column (1)].** Indicates the number used to identify items called out in the illustration.

b. **SMR CODE [Column (2)].** The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instruction, as shown in the following breakout:


Source Code
XX
1st two positions
How you get an item.
Maintenance Code
XX
3d position
Who can install, replace, or use the item.
4th position
Who can do complete repair* on the item.
Recoverability Code
X
5th position
Who determines disposition action on an unserviceable item.

* *Complete Repair:* Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the *"Repair"* function in a use/user environment in order to restore serviceability to a failed item.

F-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (Con't).

(1) **Source Code.** The source code tells you how to get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow:

Code	Application/Explanation
PA PB PC** PD PE PF PG	Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the category indicated by the code entered in the 3d position of the SMR code. *** Items coded PC are subject to deterioration.*
KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the 3d position of the SMR code. The complete kit must be requisitioned and applied.
MO – Made at ORG/ AVUM Level *MF – Made at DS/AVUM Level* *MH – Made at GS Level* *MD – Made at Depot*	Items with these codes are not to be requested/requisitioned individually. They must be made from bulk materiel which is identified by the part number in the *DESCRIPTION AND USABLE ON CODE (UOC)* column and listed in the bulk materiel group of the repair parts list in this RPSTL. If the item is authorized to you by the 3d position code of the SMR code, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance.
AO – Assembled by ORG/AVUM Level *AF – Assembled by DS/ AVUM Level* *AH – Assembled by GS Level* *AD – Assembled at Depot*	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicted by the source code. If the 3d position code of the SMR code authorizes you to replace the item, but the source code indicates that the item is assembled at a higher level, order the item from the higher level of maintenance.

NOTE

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes, except for those source coded "XA."

XA – DO NOT requisition an "XA"-coded item. Order its next higher assembly.

XB – If an "XB" item is not available from salvage, order it using the CAGE and part number given.

F-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (Con't).

XC – Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.

XD – Item is not stocked. Order an "XD"-coded item through normal supply channels using the CAGE and part number given, if no NSN is available.

(2) **Maintenance Code.** Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

(a) The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to one of the following levels of maintenance.

Code	*Application/Explanation*
C	– Crew or operator maintenance done within unit maintenance or aviation unit maintenance.
O	– Unit maintenance or aviation unit can remove, replace, and use the item.
F	– Direct support or aviation intermediate level can remove, replace, and use the item.
H	– General support level can remove, replace, and use the item.
L	– Specialized repair activity can remove, replace, and use the item.
D	– Depot level can remove, replace, and use the item.

NOTE

Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.

(b) The maintenance code entered in the fourth position tells whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (i.e., perform all authorized *"Repair"* functions). This position will contain one of the following maintenance codes:

Code	*Application/Explanation*
O	– Unit maintenance or aviation unit is the lowest level that can do complete repair of the item.
F	– Direct support or aviation intermediate is the lowest level than can do complete repair of the item.
H	– General support is the lowest level that can do complete repair of the item.
L	– Specialized repair activity is the lowest level that can do complete repair of the item.
D	– Depot is the lowest level that can do complete repair of the item.
Z	– Nonreparable. No repair is authorized.
B	– No repair is authorized. (No parts or special tools are authorized for the maintenance of a "B"-coded item.) However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

F-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (Con't).

(3) **Recoverability Code.** Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the SMR code as follows:

Code	*Application/Explanation*
Z	– Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the 3d position of the SMR code.
O	– Reparable item. When uneconomically reparable, condemn and dispose of the item at unit maintenance or aviation unit level.
F	– Reparable item. When uneconomically reparable, condemn and dispose of the item at the direct support or aviation intermediate level.
H	– Reparable item. When uneconomically reparable, condemn and dispose of the item at the general support level.
D	– Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item not authorized below depot level.
L	– Reparable item. Condemnation and disposal of item not authorized below specialized repair activity (SRA).
A	– Item requires special handling or condemnation procedures because of specific reasons (e.g., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

c. **CAGEC [Column (3)]**. The Commercial and Government Entity (CAGE) Code (C) is a 5-digit alphanumeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

NOTE

When you use an NSN to requisition an item, the item you receive may have a different part number from the part ordered.

d. **PART NUMBER [Column (4)]**. Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

e. **DESCRIPTION AND USABLE ON CODE (UOC) [Column (5)]**. This column includes the following information:

(1) The Federal item name and, when required, a minimum description to identify the item.

(2) Physical security classification. Not Applicable.

(3) Items that are included in kits and sets are listed below the name of the kit or set on Figure KIT.

(4) Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry.

(5) Part numbers for bulk materiels are referenced in this column in the line item entry for the item to be manufactured/fabricated.

(6) When the item is not used with all serial numbers of the same model, the effective serial numbers are shown on the last line(s) of the description (before UOC). (See paragraph 5, *Special infomation*)

F-3. EXPLANATION OF COLUMNS (SECTIONS II AND III) (Con't).

(7) The usable on code, when applicable. (See paragraph F-5, Special Information)

(8) In the Special Tools List section, the Basis of Issue (BOI) appears as the last line(s) in the entry for each special tool, special TMDE, and other special support equipment. When density of equipments supported exceeds density spread indicated in the Basis of Issue, the total authorization is increased proportionately.

(9) The statement "END OF FIGURE" appears just below the last item description in Column 5 for a given figure in both Section II and Section III.

f. QTY [Column (6)]. The *QTY* (quantity per figure) column indicates the quantity of the item used in the breakout shown on the illustration/figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that the quantity is variable and the quantity may vary from application to application.

F-4. EXPLANATION OF COLUMNS (SECTION IV).

a. National Stock Number (NSN) Index.

(1) **STOCK NUMBER Column.** This column lists the NSN by National Item Identification Number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN (i.e., $\overbrace{5305\text{-}\underbrace{01\text{-}674\text{-}1467}_{\text{NIIN}}}^{\text{NSN}}$). When using this column to locate an item, ignore the first 4 digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

(2) **FIG. Column.** This column lists the number of the figure where the item is identified/located. The figures are in numerical order in Section II and Section III.

(3) **ITEM Column.** The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

b. Part Number Index. Part numbers in this index are listed by part number in ascending alphanumeric sequence (i.e., vertical arrangement of letter and number combination which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).

(1) **CAGEC Column.** The Commercial and Government Entity (CAGE) Code (C) is a 5-digit alphanumeric code used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

(2) **PART NUMBER Column.** Indicates the primary number used by the manufacturer (individual, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards and inspection requirements to identify an item or range of items.

(3) **STOCK NUMBER Column.** This column lists the NSN for the associated part number and manufacturer identified in the PART NUMBER and CAGE columns to the left.

(4) **FIG. Column.** This column lists the number of the figure where the item is identified/located in Section II and Section III.

(5) **ITEM Column.** The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

F-5. SPECIAL INFORMATION.

a. **Usable On Code.** The usable on code appears in the lower left corner of the Description column heading. Usable on codes are shown as "UOC: . . . . " in the Description column (justified left) on the first line applicable item description/nomenclature. Uncoded items are applicable to all models. Identification of the usable on codes used in this RPSTL are:

Code	*Used On*
175	M390C
914	M514

b. **Fabrication Instructions.** Bulk materiels required to manufacture items are listed in the Bulk Materiel Functional Group of this RPSTL. Part numbers for bulk materiels are also referenced in the DESCRIPTION column of the line item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source coded to be manufactured or fabricated are found in *Appendix G* of this manual.

c. **Assembly Instructions.** Detailed assembly instructions for items source coded to be assembled from component spare/repair parts are found in *Chapters 4* and *5*. Items that make up the assembly are listed immediately following the assembly item entry or reference is made to an applicable figure.

d. **Kits.** Line item entries for repair parts kits appear in group 9401 in Section II.

e. **Index Numbers.** Items which have the word BULK in the FIG. column will have an index number shown in the item column. This index number is a cross-reference between the National Stock Number/Part Number Index and the bulk materiel list in Section II.

F-6. HOW TO LOCATE REPAIR PARTS.

a. **When National Stock Number or Part Number Is Not Known:**

(1) **First.** Using the Table of Contents, determine the assembly group or subassembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and listings are divided into the same groups.

(2) **Second.** Find the figure covering the assembly group or subassembly group to which the item belongs.

(3) **Third.** Identify the item on the figure and use the Figure and Item Number Index to find the NSN.

b. **When National Stock Number or Part Number is Known:**

(1) **First.** Using the National Stock Number or Part Number Index, find the pertinent National Stock Number or Part Number. The NSN Index is in National Item Identification Number (NIIN) sequence [see paragraph F-4.a(1)]. The part numbers in the Part Number Index are listed in ascending alphanumeric sequence (see paragraph F-4.b). Both indexes cross-reference you to the illustration/figure and item number of the item you are looking for.

(2) **Second.** Turn to the figure and item number, verify that the item is the one you're looking for, then locate the item number in the repair parts list for the figure.

F-7. ABBREVIATIONS.

For standard abbreviations see MIL-STD-12D, *Military Standard Abbreviations for Use on Drawings, Specifications, Standards, and in Technical Documents.*

1

2 THRU 8

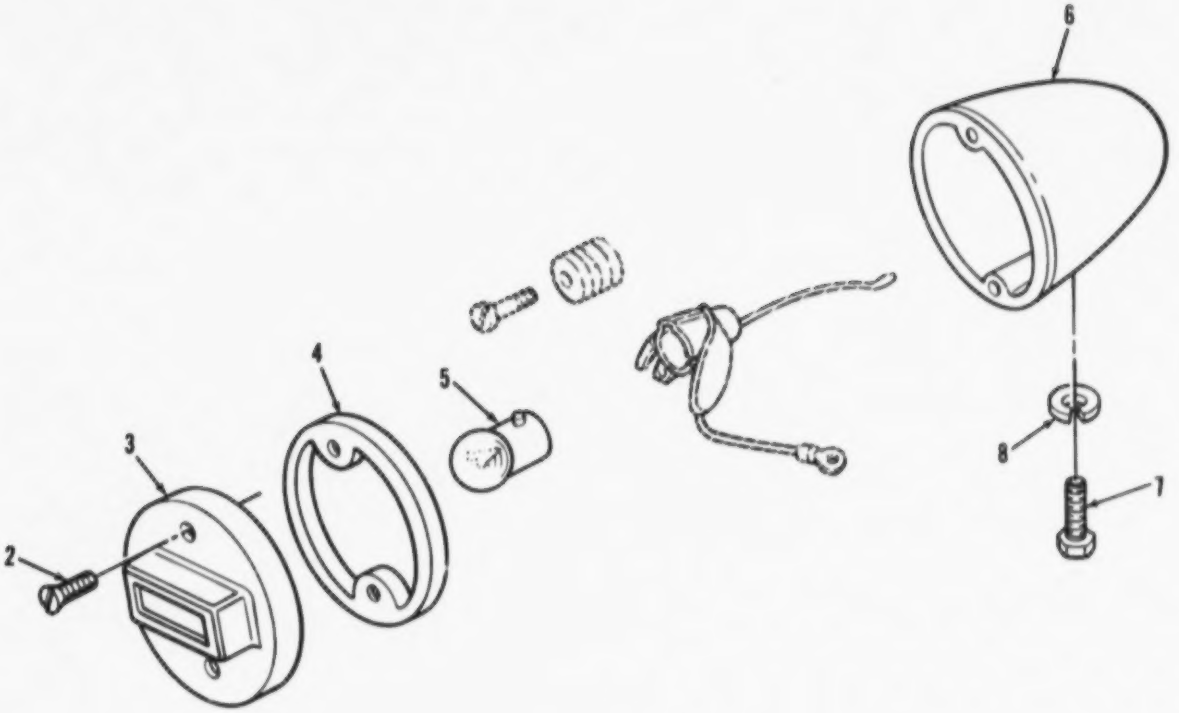


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FIGURE 1. BLACKOUT STOPLIGHT ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 06 ELECTRICAL SYSTEM	
				GROUP: 0609 LIGHTS	
				FIG. 1 BLACKOUT STOPLIGHT ASSEMBLY	
1	PAOOO	96906	MS51302-1	STOP LIGHT,VEHICULA..................	1
2	PAOZZ	96906	MS51959-46	.SCREW,MACHINE.......................	2
3	PAOZZ	19207	8741646	.RETAINER,LENS.......................	1
4	PAOZZ	19207	8694464	.GASKET..............................	1
5	PAOZZ	96906	MS15570-1251	.LAMP,INCANDESCENT...................	2
6	XAOZZ	19207	8741650	.HOUSING,LIGHT.......................	1
7	PAOZZ	96906	MS90726-29	.SCREW,CAP,HEXAGON H.................	1
8	PAOZZ	96906	MS35338-45	.WASHER,LOCK.........................	1

END OF FIGURE

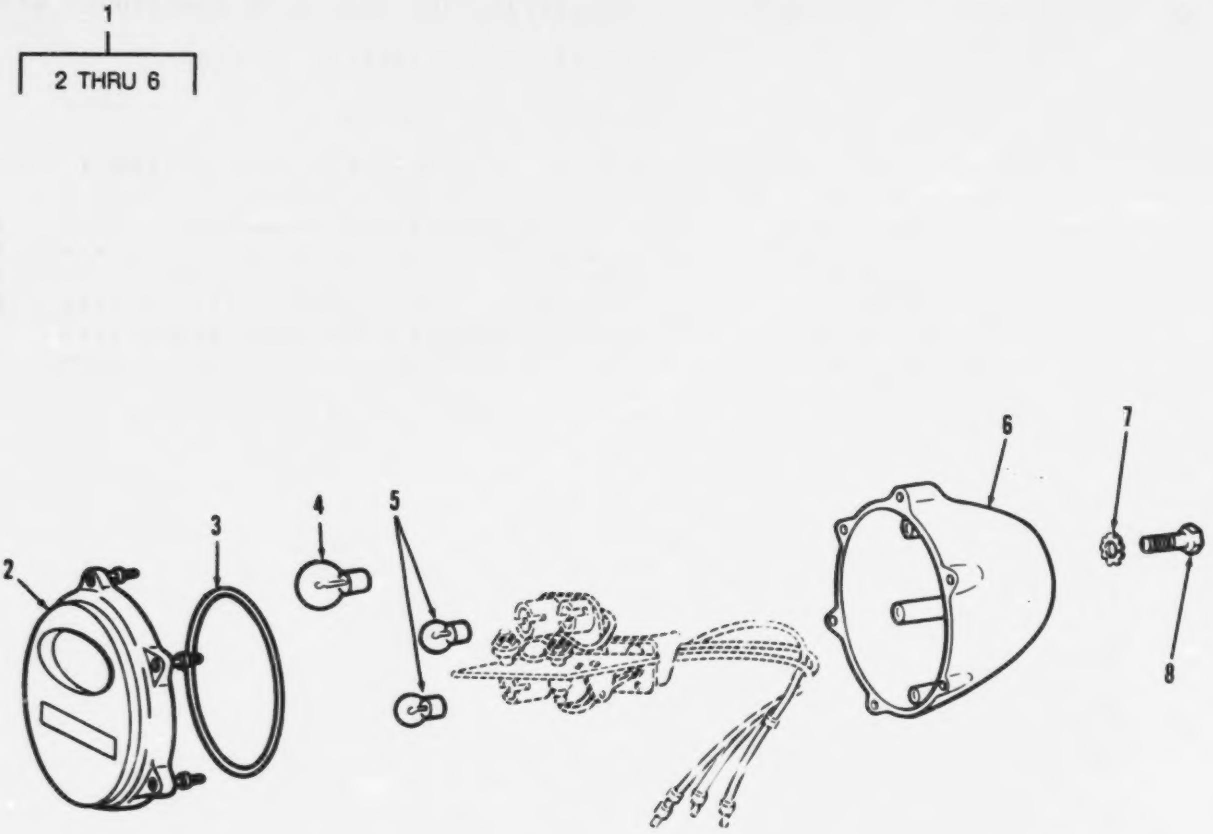
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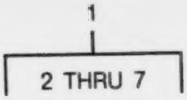
FIGURE 2. TAILLIGHT STOPLIGHT ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 0609 LIGHTS	
				FIG. 2 TAILLIGHT STOPLIGHT ASSEMBLY	
1	PAOOO	96906	MS51329-1	STOP LIGHT-TAILLIGH	2
2	PAOZZ	19207	7526020	.RETAINER,LENS	1
3	PAOZZ	19207	7320658	.PACKING,PREFORMED	1
4	PAOZZ	19207	MS35478-1683	.LAMP,INCANDESCENT	1
5	PAOZZ	96906	MS15570-1251	.LAMP,INCANDESCENT	1
6	XAOZZ	19207	7525997	.BODY,TAILLIGHT	1
7	PAOZZ	96906	MS35338-46	WASHER,LOCK	2
8	PAOZZ	96906	MS18154-58	SCREW,CAP,HEXAGON H	2

END OF FIGURE



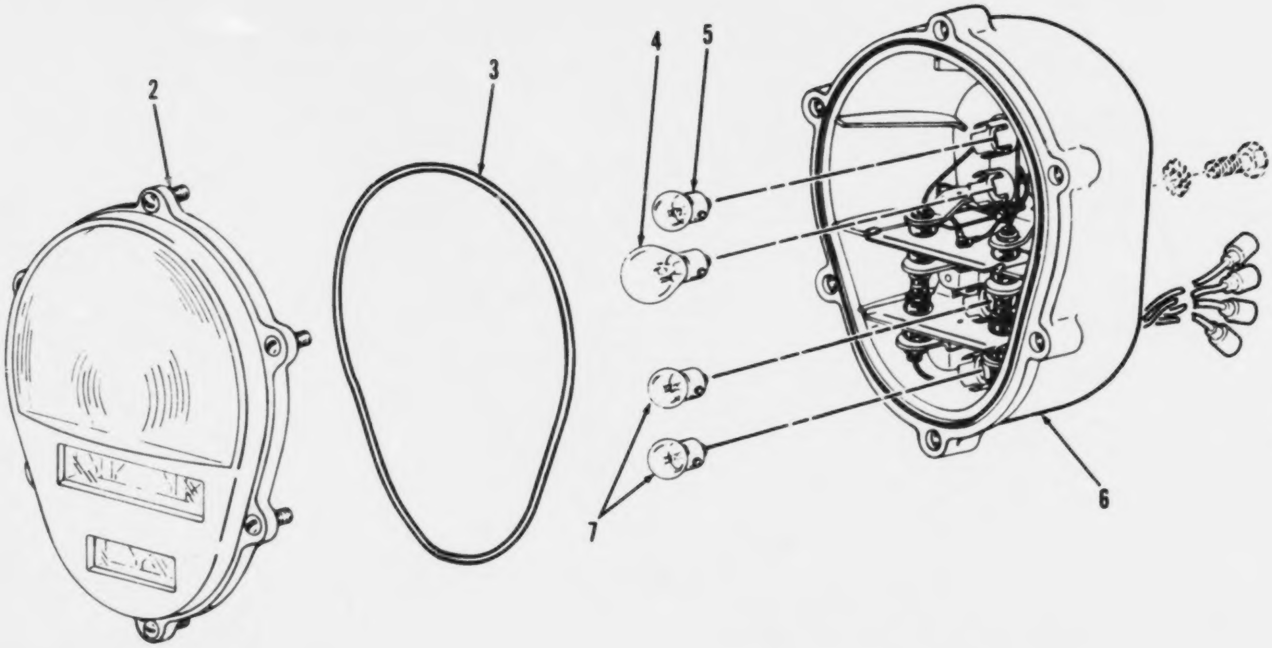


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FIGURE 3. COMPOSITE LIGHT ASSEMBLY.

GROUP: 0609 LIGHTS

FIG. 3 COMPOSITE LIGHT ASSEMBLY

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
1	PAOOO	96906	MS52125-2	STOP LIGHT-TAILLIGH UOC:175	1
2	PAOZZ	19207	11639535	.LENS,LIGHT UOC:175	1
3	PAOZZ	19207	11639519-2	.PACKING,PREFORMED UOC:175	1
4	PAOZZ	96906	MS15570-623	.LAMP,INCANDESCENT UOC:175	1
5	PAOZZ	19207	MS35478-1683	.LAMP,INCANDESCENT UOC:175	1
6	XAOZZ	19207	11639520	.BODY ASSEMBLY UOC:175	1
7	PAOZZ	96906	MS15570-1251	.LAMP,INCANDESCENT UOC:175	2

END OF FIGURE

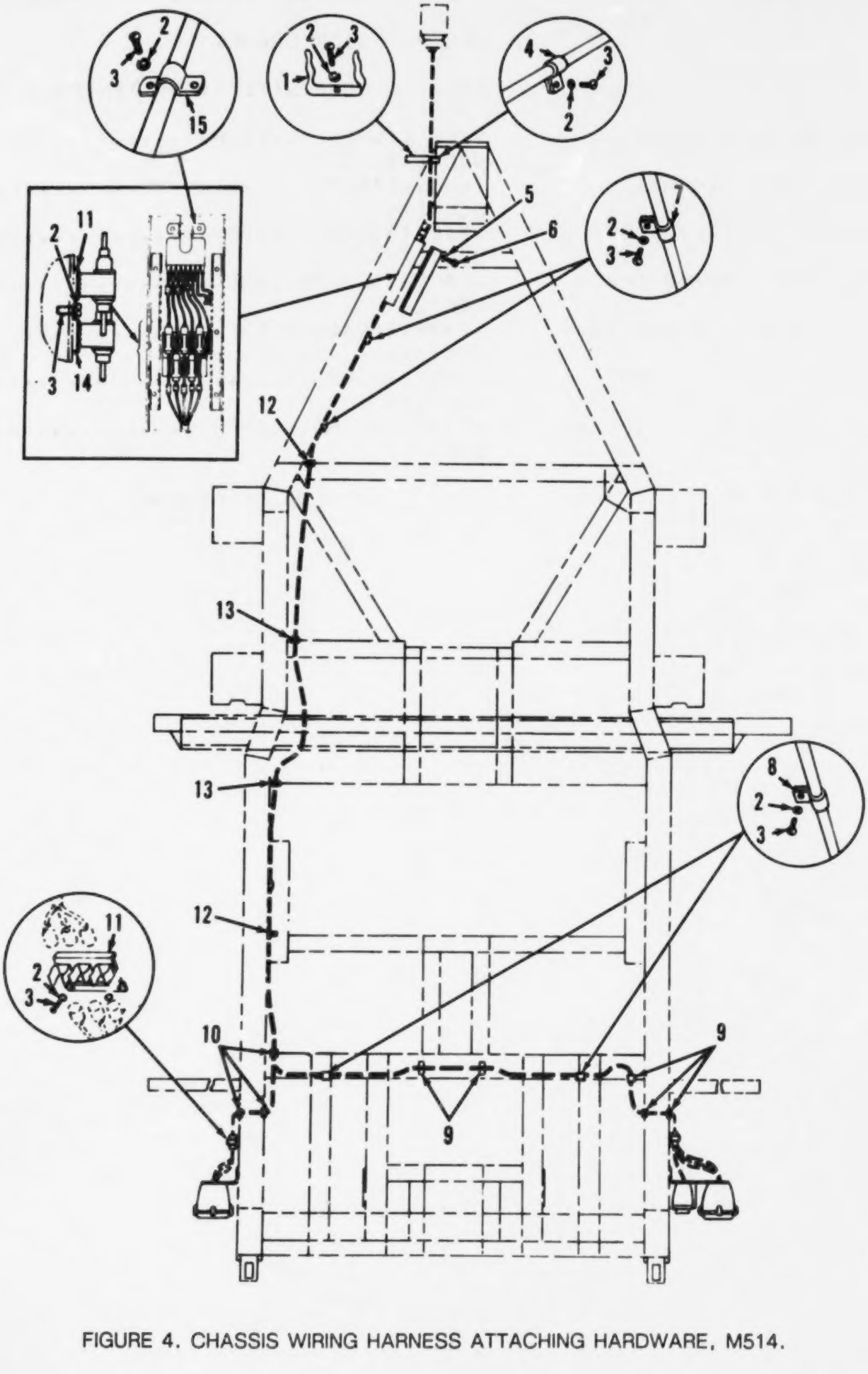
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FIGURE 4. CHASSIS WIRING HARNESS ATTACHING HARDWARE, M514.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 0613 CHASSIS WIRING HARNESS	
				FIG. 4 CHASSIS WIRING HARNESS ATTACHING HARDWARE, M514	
1	PAOZZ	19207	8363978	CLIP,RETAINING UOC:914	1
2	PAOZZ	96906	MS35335-33	WASHER, LOCK UOC:914	24
3	PAOZZ	96906	MS24629-58	SCREW,TAPPING UOC:914	24
4	PAOZZ	96906	MS35140-12	STRAP,RETAINING UOC:914	1
5	PAOZZ	96906	MS35335-32	WASHER, LOCK UOC:914	4
6	PAOZZ	96906	MS24629-47	SCREW, TAPPING UOC:914	4
7	PAOZZ	19207	7703692	CLAMP,LOOP UOC:914	4
8	PAOZZ	19207	7743749	CLAMP,LOOP UOC:914	4
9	PAOZZ	96906	MS35489-45	GROMMET,NONMETALIC UOC:914	8
10	PAOZZ	96906	MS35489-43S	GROMMET,NONMETALIC UOC:914	3
11	PAOZZ	19207	8747908	CLIP ASSEMBLY,CLIP UOC:914	4
12	PAOZZ	96906	MS35489-49	GROMMET,NONMETALIC UOC:914	2
13	PAOZZ	96906	MS35489-16	GROMMET,NONMETALIC UOC:914	2
14	PFOZZ	19207	573111	STRAP,RETAINING UOC:914	1
15	PAOZZ	19207	8347212	CLIP,SPRING UOC:914	2

END OF FIGURE

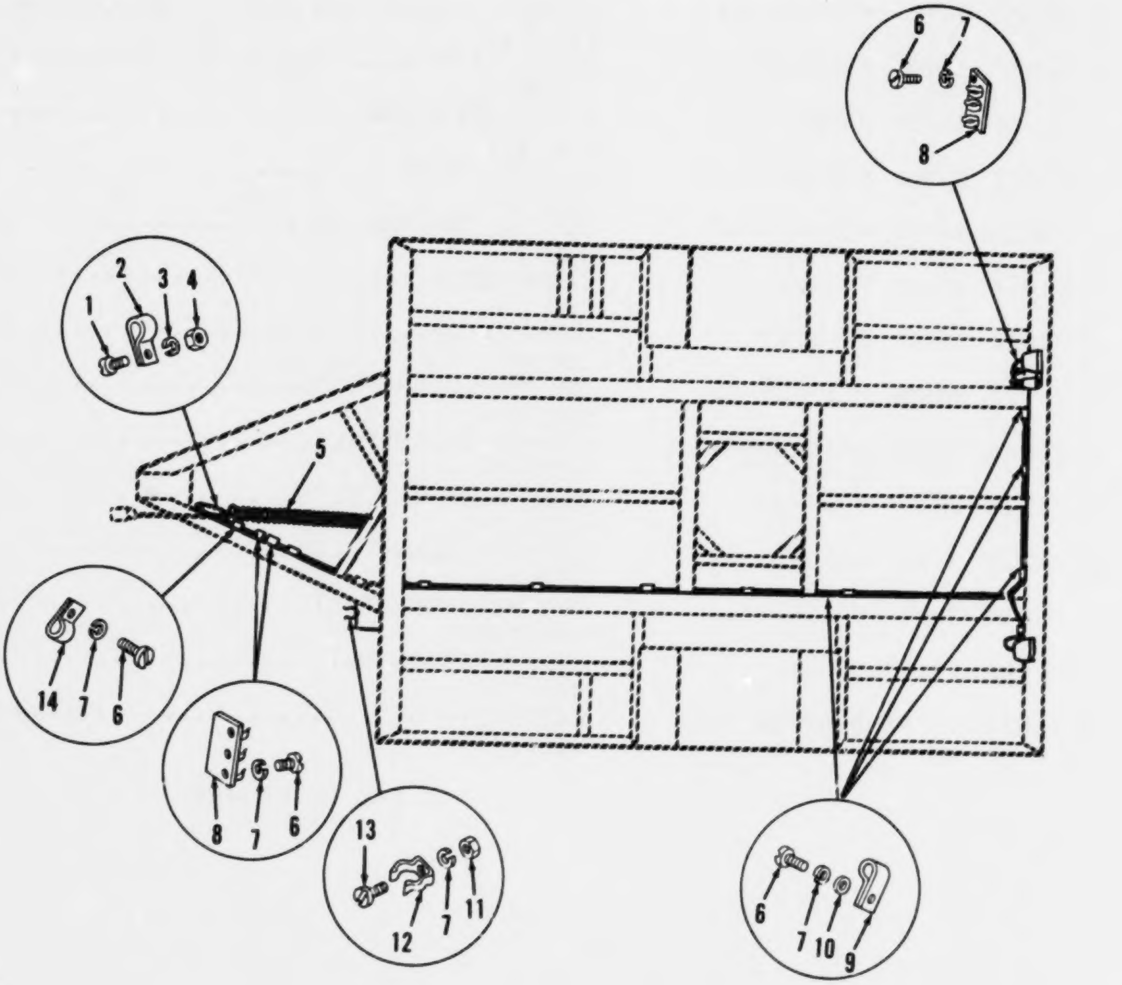
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FIGURE 5. CHASSIS WIRING HARNESS ATTACHING HARDWARE, M390C.

GROUP: 0613 CHASSIS WIRING HARNESS

FIG. 5 CHASSIS WIRING HARNESS ATTACHING HARDWARE, M390C

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
1	PAOZZ	96906	MS35206-245	SCREW,MACHINE......................... UOC:175	1
2	PAOZZ	19207	545033	CLAMP,LOOP............................ UOC:175	1
3	PAOZZ	96906	MS35338-42	WASHER,LOCK........................... UOC:175	1
4	PAOZZ	96906	MS35649-282	NUT,PLAIN,HEXAGON..................... UOC:175	1
5	PAOZZ	19207	7001762	SPRING,HELICAL,EXTE................... UOC:175	1
6	PAOZZ	96906	MS35206-277	SCREW,MACHINE TAILLIGHT CLIPS (4), HARNESS STRAPS (11), CABLE TO HARNESS CLIPS (4), CABLE CLAMP (1) UOC:175	20
7	PAOZZ	96906	MS35338-44	WASHER,LOCK........................... UOC:175	21
8	PAOZZ	19207	8330139	CLIP,SPRING TENSION................... UOC:175	4
9	PAOZZ	19207	10905840	STRAP,TIEDOWN,ELECT................... UOC:175	11
10	PAOZZ	96906	MS27183-10	WASHER,FLAT........................... UOC:175	11
11	PAOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON..................... UOC:175	1
12	PAOZZ	19207	8363978	CLIP,SPRING TENSION................... UOC:175	1
13	PAOZZ	96906	MS35206-281	SCREW,MACHINE......................... UOC:175	1
14	PAOZZ	96906	MS21333-105	CLAMP,LOOP............................ UOC:175	1

END OF FIGURE

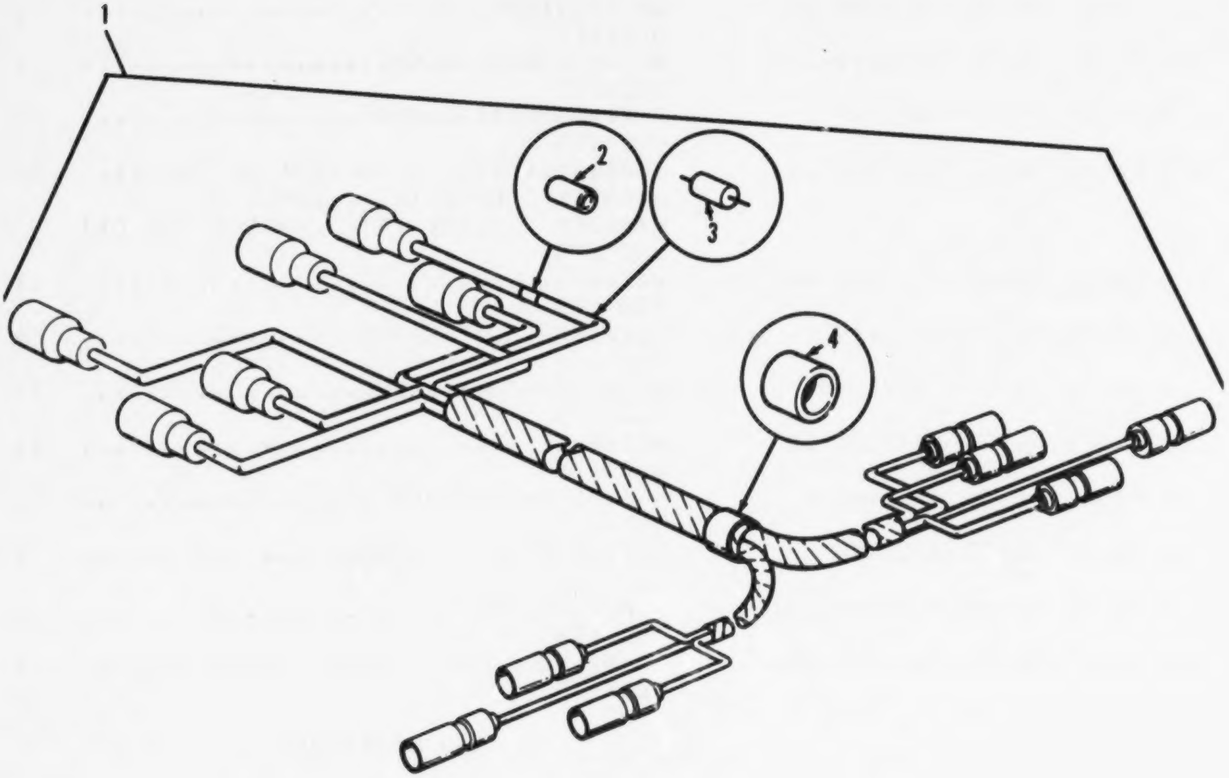

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FIGURE 6. WIRING HARNESS.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 0613 CHASSIS WIRING HARNESS	
				FIG. 6 WIRING HARNESS	
1	PAOZZ	19207	10891262	WIRING HARNESS,BRAN.................. UOC:175	1
1	PAOZZ	19207	8759750	WIRING HARNESS....................... UOC:914	1
2	PAOZZ	19207	7524649	BAND,MARKER..........................	12
3	PAOZZ	19207	7720853	WIRE,ELECTRICAL......................	V
4	PAOZZ	81349	M43436/1-2	BAND,MARKER.......................... UOC:175	1
4	PAOZZ	81349	M43436/1-3	BAND,MARKER.......................... UOC:914	1

END OF FIGURE

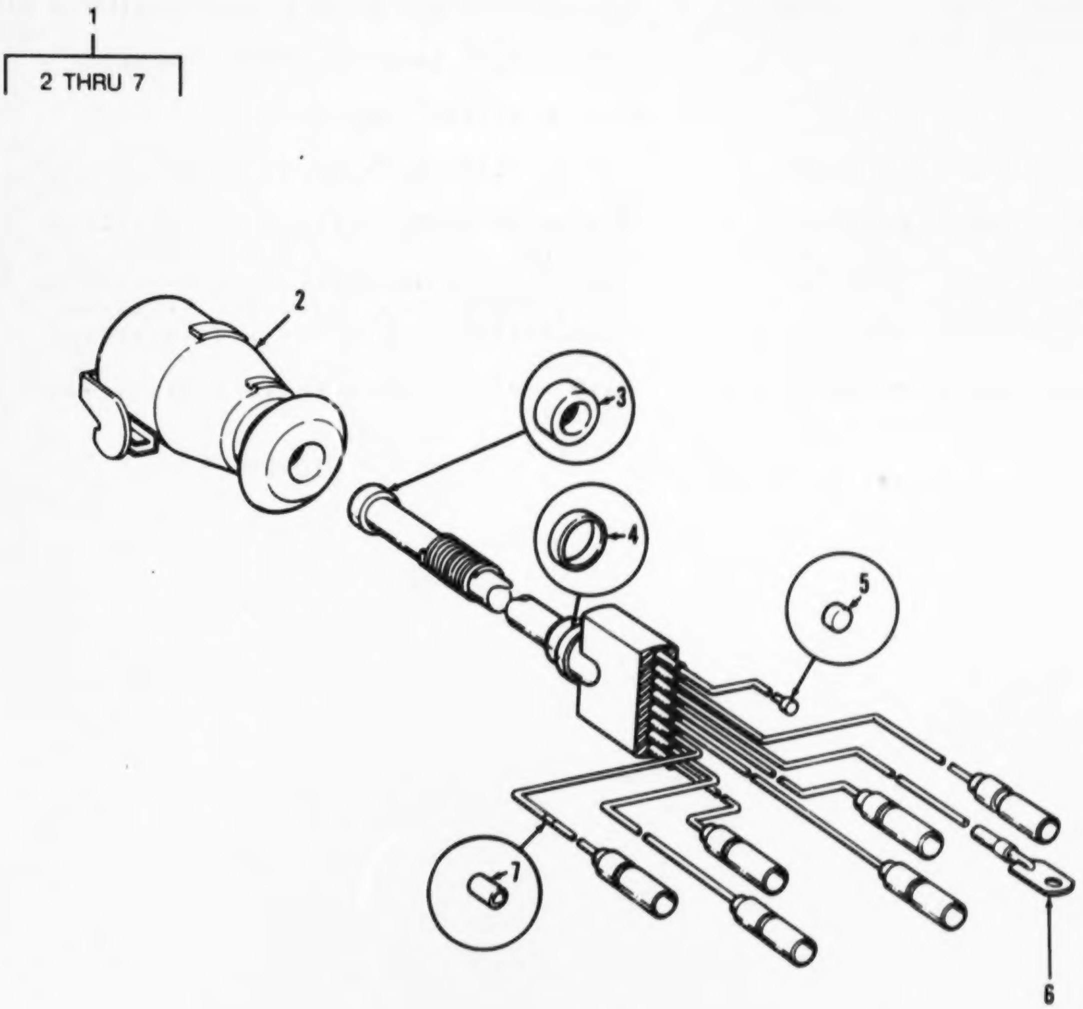
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FIGURE 7. INTERVEHICULAR CABLE ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 0613 CHASSIS WIRING HARNESS	
				FIG. 7 INTERVEHICULAR CABLE ASSEMBLY	
1	PAOOO	19207	10891263	WIRING HARNESS....................... UCC:175	1
1	PAOOO	19207	8759745	CABLEASSEMBLY,SPEC................... UOC:914	1
2	XAOZZ	19207	7358187	.CONNECTOR,PLUG,ELEC................ UCC:175	1
3	XDOZZ	19207	7358183	.BUSHING............................. UOC:175	1
4	PAOZZ	81349	M43436/1-2	.BAND,MARKER......................... UCC:175	1
5	PAOZZ	19207	8347216	.CAP,PROTECTIVE,DUST................. UOC:175,914	1
6	PAOZZ	21450	506209	.TERMINAL,LUG........................ UCC:175	1
6	PAOZZ	19207	7056709	.TERMINAL,LUG........................ UOC:914	1
7	PAOZZ	19207	7524649	.BAND,MARKER......................... UCC:175	8

END OF FIGURE

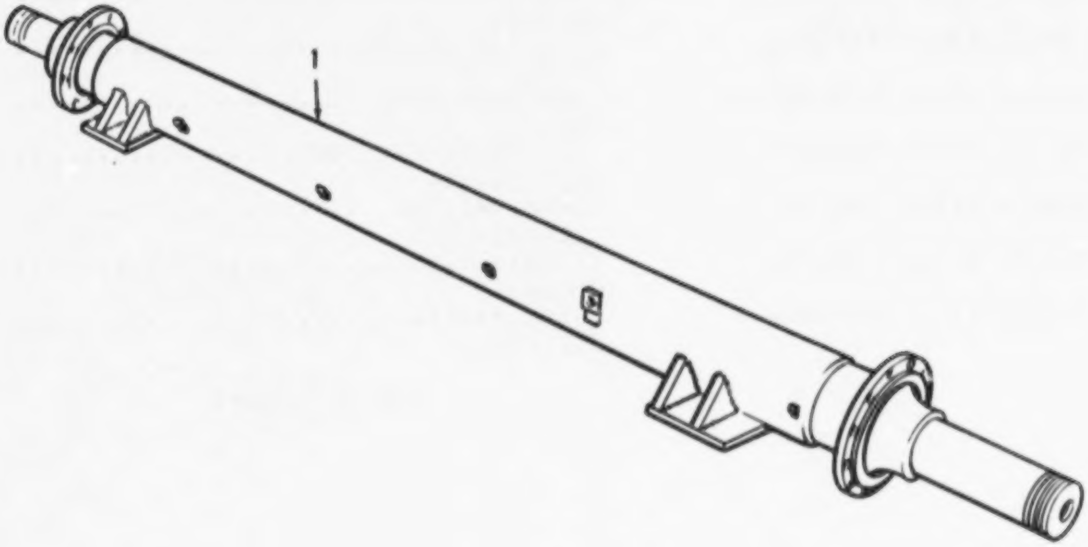

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FIGURE 8. REAR AXLE.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 11 REAR AXLE	
				GROUP: 1100 REAR AXLE ASSEMBLY	
				FIG. 8 REAR AXLE	
1	PAOZZ	19207	8363957	AXLE,VEHICULAR,NOND.................. UOC:175	1

END OF FIGURE

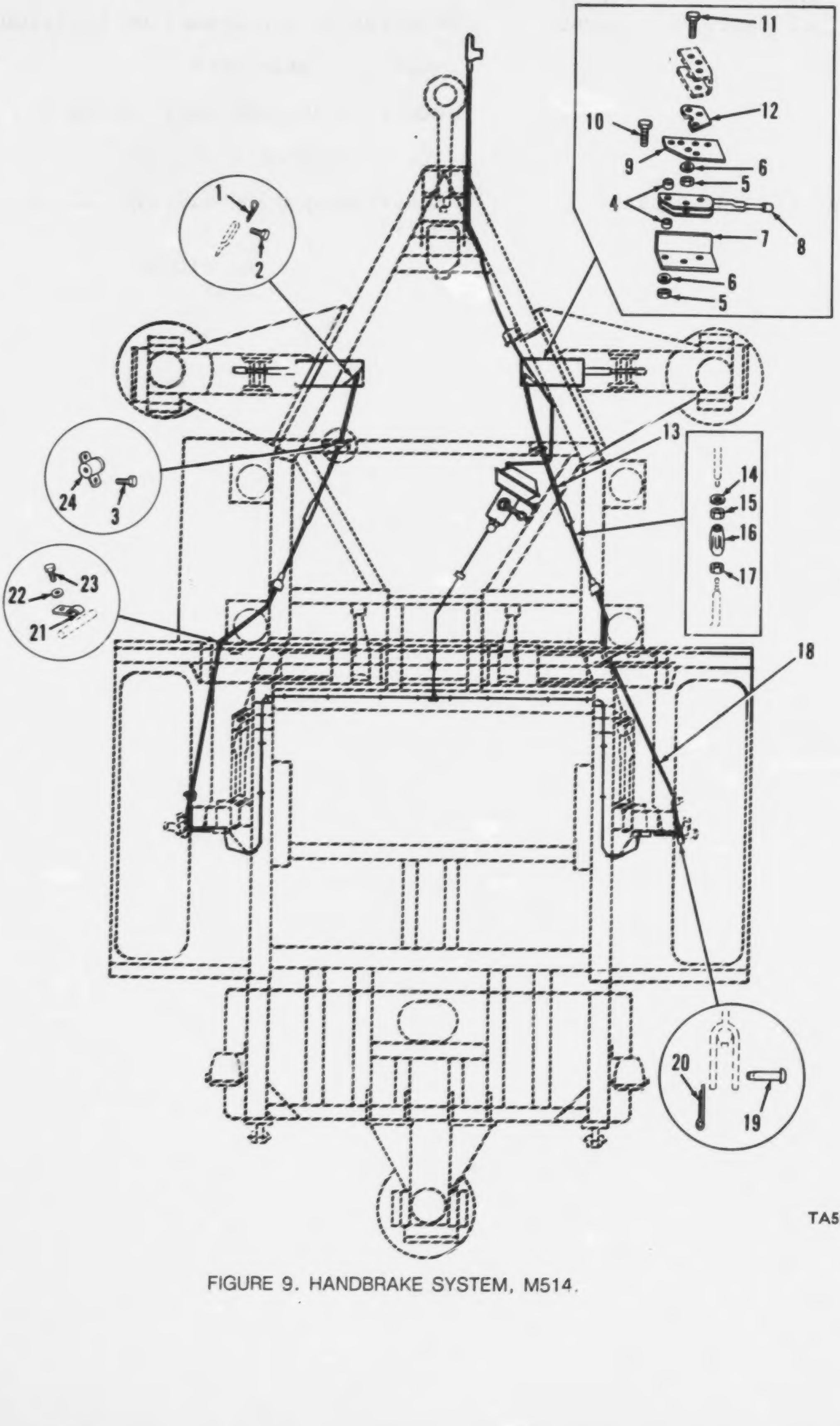
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FIGURE 9. HANDBRAKE SYSTEM, M514.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 12 BRAKES	
				GROUP: 1201 HANDBRAKES	
				FIG. 9 HANDBRAKE SYSTEM, M514	
1	PAOZZ	96906	MS24665-281	PIN,COTTER UOC:914	2
2	PAOZZ	96906	MS35810-3	PIN,STRAIGHT HEADED UOC:914	2
3	PFOZZ	21450	425324	BOLT,ASSEMBLED WASH UOC:914	4
4	PAOZZ	19207	8759893	SPACER,SLEEVE UOC:914	6
5	PAOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON UOC:914	12
6	PAOZZ	96906	MS35338-46	WASHER, LOCK UOC:914	12
7	PFOZZ	19207	8759891	BRACKET,ANGLE LEFT UOC:914	1
7	PAOZZ	19207	8759892	BRACKET,ANGLE RIGHT UOC:914	1
8	PAOZZ	19207	7392815	LEVER,MANUAL CONTRO UOC:914	1
9	PFOZZ	19207	8759895	PLATE,GUARD,BRAKE UOC:914	1
10	PAOZZ	96906	MS90725-75	SCREW,CAP,HEXAGON H UOC:914	6
11	PAOZZ	19207	8759894	BOLT,MACHINE UOC:914	12
12	PAOZZ	19207	8759890	SPACER,PLATE UOC:914	2
13	PAOZZ	19207	8675894	WIRE ROPE ASSY,SING UOC:914	1
14	PAOZZ	19207	7339422	WASHER,SLOTTED UOC:914	2
15	PAOZZ	21450	443921	NUT,PLAIN,HEXAGON UOC:914	2
16	XDOZZ	21450	538008	TURNBUCKLE,BODY UOC:914	2
17	PAOZZ	96906	MS51968-8	NUT,PLAIN,HEXAGON UOC:914	2
18	PAOZZ	19207	8675895	WIRE ROPE ASSY,SING UOC:914	2
19	PAOZZ	19207	8740063	PIN,STRAIGHT HEADED UOC:914	2
20	PAOZZ	96906	MS24665-132	PIN,COTTER UOC:914	2
21	PAOZZ	96906	MS21333-37	CLAMP,LOOP UOC:914	2
22	PAOZZ	96906	MS35338-43	WASHER,LOCK UOC:914	2

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
23	PAOZZ	96906	MS35206-263	SCREW,MACHINE...................... UOC:914	2
24	PFOZZ	21450	573111	STRP,RETAINING...................... UOC:914	2

END OF FIGURE

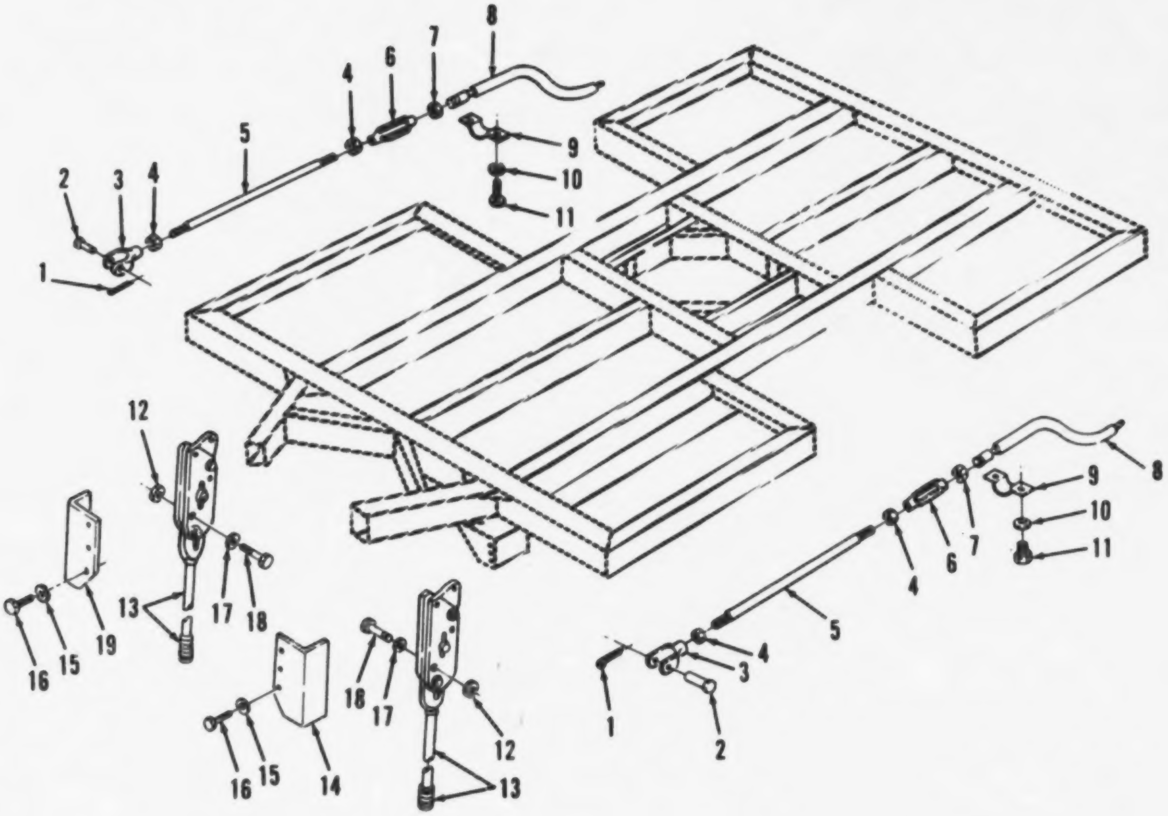
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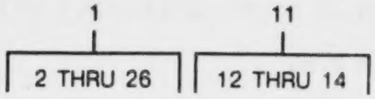
FIGURE 10. HANDBRAKE SYSTEM, M390C.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1201 HANDBRAKES	
				FIG. 10 HANDBRAKE SYSTEM, M390C	
1	PAOZZ	96906	MS24665-283	PIN,COTTER............................ UOC:175	2
2	PAOZZ	80571	BK75S4	PIN,STRAIGHT,HEADED.................. UOC:175	2
3	PAOZZ	96906	MS35812-4	CLEVIS,ROD END....................... UOC:175	2
4	PAOZZ	96906	MS51968-8	NUT,PLAIN,HEXAGON.................... UOC:175	4
5	PAOZZ	19207	8363986	ROD,THREADED END..................... UOC:175	2
6	PAOZZ	19207	8331946	TURNBUCKLE BODY...................... UOC:175	2
7	PAOZZ	96906	MS45905S6	NUT,PLAIN,HEXAGON.................... UOC:175	2
8	PAOZZ	19207	7049884	CONTROL ASSEMBLY,PU.................. UOC:175	2
9	PAOZZ	19207	5303461	BRACKET.............................. UOC:175	2
10	PAOZZ	96906	MS35338-45	WASHER,LOCK.......................... UOC:175	6
11	PAOZZ	96906	MS35206-292	SCREW,MACHINE........................ UOC:175	4
12	PAOZZ	96906	MS51922-17	NUT,SELF-LOCKING,HE.................. UOC:175	6
13	PAOZZ	92867	01001307	LEVER,MANUAL CONTRO.................. UOC:175	2
14	PAOZZ	19207	8363987	GUARD................................ UOC:175	1
15	PAOZZ	96906	MS35338-44	WASHER,LOCK.......................... UOC:175	6
16	PAOZZ	96906	MS35206-277	SCREW,MACHINE........................ UOC:175	6
17	PAOZZ	19207	8699500	SPACER,SLEEVE........................ UOC:175	6
18	PAOZZ	96906	MS90725-67	SCREW,CAP,HEXAGON H.................. UOC:175	6
19	PFOZZ	19207	8363988	GUARD,SPLASH,VEHICU LEVER.......... UOC:175	1

END OF FIGURE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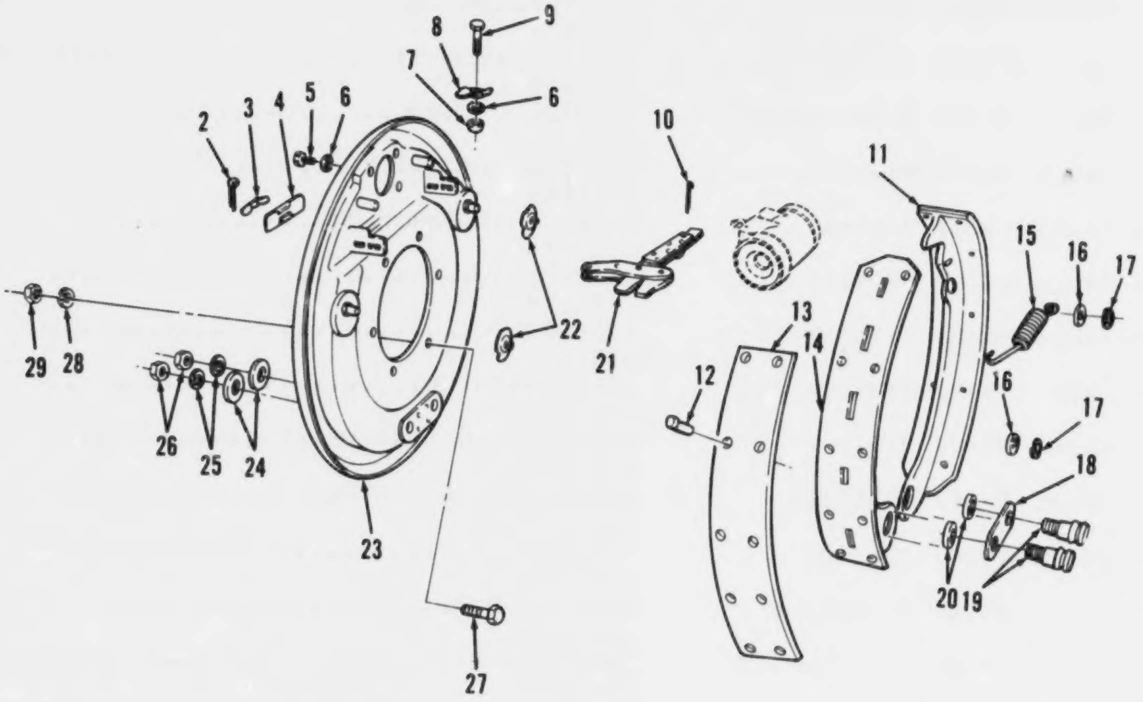
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FIGURE 11. SERVICE BRAKE ASSEMBLY, M514.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1202 SERVICE BRAKES	
				FIG. 11 SERVICE BRAKE ASSEMBLY, M514	
1	PAOOO	18876	8016971	BRAKE,SHOE TYPE LEFT................ UOC:914	1
1	PAOOO	19207	8016972	BRAKE,SHOE TYPE RIGHT................ UOC:914	1
2	XDOZZ	19207	7612773	.PIN,COTTER.......................... UOC:914	2
3	PAOZZ	19207	8016998	.SPRING,FLAT......................... UOC:914	2
4	PAOZZ	19207	8016983	.GUARD,BRAKE LEVER................... UOC:914	2
5	PAOZZ	96906	MS90728-29	SCRE,CAP,HEXAGON..................... UOC:914	6
6	PAOZZ	96906	MS35338-45	.WASHER,LOCK......................... UOC:914	6
7	PAOZZ	96906	MS51967-5	.NUT,PLAIN,HEXAGON................... UOC:914	2
8	PAOZZ	63477	F18800	.CLAMP,RIM CLENCHING................. UOC:914	2
9	XDOZZ	19207	7612774	.BOLT,MACHINE........................ UOC:914	2
10	PAOZZ	96906	MS24665-132	.PIN,COTTER.......................... UOC:914	2
11	PAOOO	19207	8016973	.BRAKE SHOE ASSEMBLY................. UOC:914	4
12	PAOZZ	19207	7612769	..RIVET,TUBULAR...................... UOC:914	20
13	PAOZZ	19207	8382933	..LINING,FRICTION.................... UOC:914	1
14	XAOZZ	19207	8016975	..SHOE,BRAKE......................... UOC:914	4
15	PAOZZ	19207	8713986	.SPRING,HELICAL,EXTE................. UOC:914	2
16	XDOZZ	19207	8016978	.WASHER,FLAT......................... UOC:914	4
17	PAOZZ	19207	8016879	.WASHER,"C".......................... UOC:914	4
18	XBOZZ	19207	8016976	.PLATE............................... UOC:914	2
19	PAOZZ	19207	8017162	.PIN................................. UOC:914	4
20	PAOZZ	19207	8017159	.LINK,ANCHOR,BRAKE S................. UOC:914	4
21	PAOZZ	19207	7335059	.LINK TOGGLE,RIGHT................... UOC:914	1
21	PAOZZ	19207	7335058	.EXPANDER,BRAKE SHOE LEFT............ UOC:914	1
22	PAOZZ	19207	8017164	.WASHER.............................. UOC:914	4

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
23	PAOZZ	19207	8016980	.PLATE LEFT UCC:914	1
23	PAOZZ	19207	8016981	.PLATE RIGHT UOC:914	1
24	PAOZZ	19207	8016977	.WASHER,FLAT UCC:914	4
25	PAOZZ	96906	MS35338-48	.WASHER,LOCK UOC:914	4
26	PAOZZ	96906	MS51968-14	.NUT,PLAIN,HEXAGON UCC:914	4
27	PAOZZ	96906	MS90726-61	SCREW,CAP,HEXAGON UOC:914	12
28	PAOZZ	96906	MS35338-46	WASHER,LOCK UCC:914	12
29	PAOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON UCC:914	12

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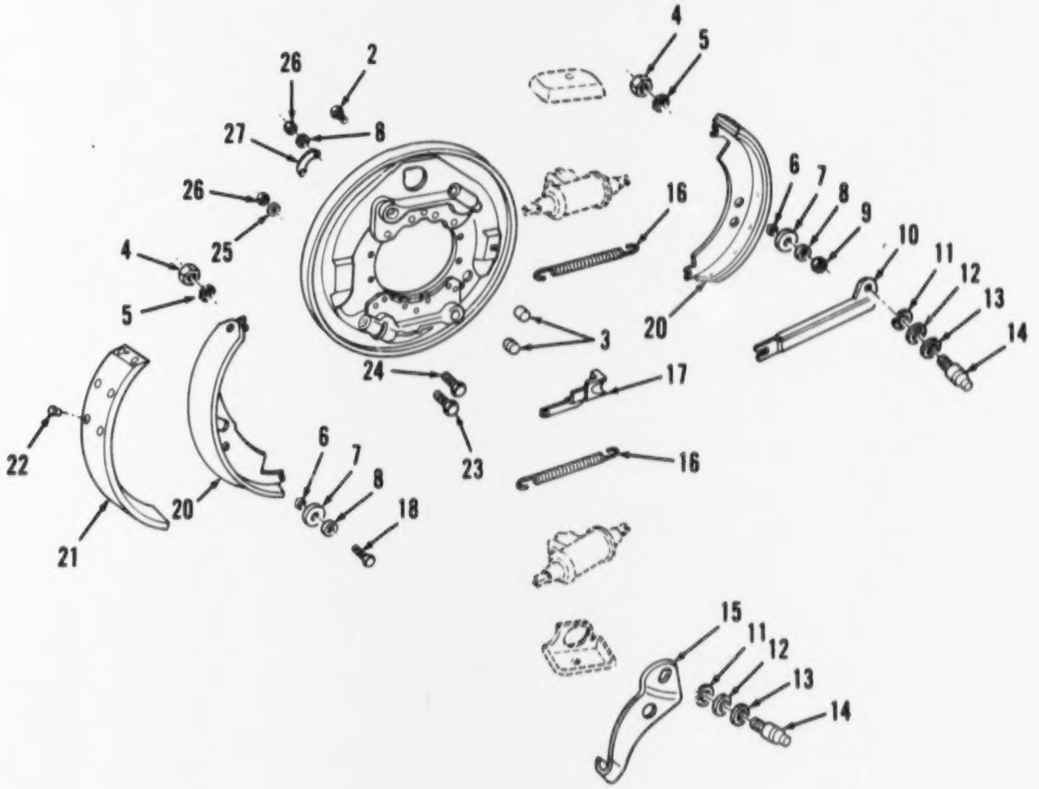
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FIGURE 12. SERVICE BRAKE ASSEMBLY, M390C.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1202 SERVICE BRAKES	
				FIG. 12 SERVICE BRAKE ASSEMBLY, M390C	
1	PAOOO	19207	8723800	BRAKE,SHOE TYPE LEFT UCC:175	1
1	PAOOO	19207	8723801	BRAKE,SHOE TYPE RIGHT UCC:175	1
2	PAOZZ	19207	7411760	.BOLT,SQUARE NECK UCC:175	2
3	PAOZZ	19207	7412106	.PIN,STRAIGHT,HEADLE UCC:175	2
4	PAOZZ	96906	MS51970-4	.NUT,PLAIN,HEXAGON UCC:175	4
5	PAOZZ	96906	MS35335-36	.WASHER,LOCK UOC:175	4
6	PAOZZ	19207	7412103	.SPACER,SLEEVE UCC:175	2
7	PAOZZ	19207	5323088	.WASHER,FLAT UCC:175	2
8	PAOZZ	96906	MS35338-44	.WASHER,LOCK UCC:175	2
9	PAOZZ	96906	MS51970-1	.NUT,PLAIN,HEXAGON UOC:175	2
10	PAOZZ	19207	8733926	.CONNECTING LINK,RIG LEFT UCC:175	1
10	PAOZZ	19207	8733927	.LINK EMERGENCY BRAK RIGHT UCC:175	1
11	PAOZZ	19207	8733935	.WASHER,SPRING TENSI UCC:175	4
12	PAOZZ	19207	8733936	.WASHER,FLAT UCC:175	2
13	PAOZZ	19207	8733937	.WASHER,SLOTTED UCC:175	2
14	PAOZZ	19207	8733938	PIN,SERVICE BRAKE UCC:175	2
15	PAOZZ	19207	8733911	.LEVER,LEFT HAND BRA UCC:175	1
15	PAOZZ	19207	8733912	.LEVER,RIGHT HAND BR UOC:175	1
16	PAOZZ	19207	8333770	.SPRING,HELICAL,EXTE UCC:175	2
17	PAOZZ	19207	8733892	.RAMP,CABLE LEFT UCC:175	1
17	PAOZZ	63477	F19582	.RAMP,BRAKE CABLE RIGHT UCC:175	1
18	PAOZZ	96906	MS90726-8	.SCREW,CAP,HEXAGON H UOC:175	1
19	PAOOO	19207	7064978	.BRAKE SHOE UCC:175	2
20	XAOZZ	19207	7064979	..SHOE, BRAKE	2

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				UOC:175	
21	PAOZZ	19207	8720517	..LINING,FRICTION................... UOC:175	2
22	PAOZZ	96906	MS16536-175	..RIVET,TUBULAR..................... UOC:175	12
23	PAOZZ	96906	MS35206-279	.SCREW,MACHINE...................... UOC:175	2
24	PAOZZ	96906	MS90726-64	SCREW,CAP,HEXAGON H................. UOC:175	2
25	PAOZZ	19207	7411378	.WASHER,KEY......................... UOC:175	2
26	PAOZZ	96906	MS51968-14	.NUT, PLAIN, HEXAGON................ UOC:175	2
27	PAOZZ	19207	8733890	.BRACKET,LEFT HAND.................. UOC:175	1
27	PAOZZ	19207	8733891	.BRACKET,RIGHT HAND................. UOC:175	1

END OF FIGURE

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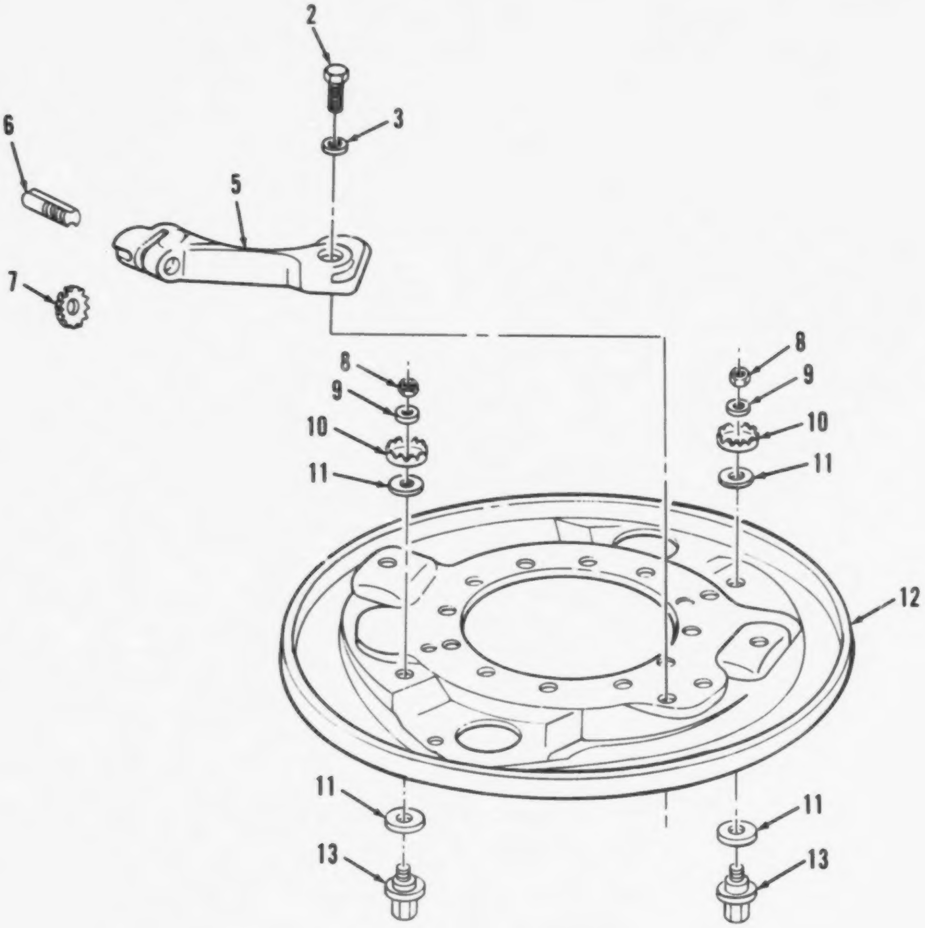
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FIGURE 13. BACKING PLATE ASSEMBLY, M390C.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1202 SERVICE BRAKES	
				FIG. 13 BACKING PLATE ASSEMBLY, M390C	
1	PAOOO	19207	8733901	PLATE,BACKING,BRAKE LEFT UOC:175	1
1	PAOOO	19207	8733902	PLATE,BACKING,BRAKE RIGHT UOC:175	1
2	PAOZZ	96906	MS18154-58	.SCREW,CAP,HEXAGON H UOC:175	6
3	PAOZZ	96906	MS35335-35	.WASHER,LOCK UOC:175	3
4	PAOOO	18876	8733896	.SUPPORT AND ADJUSTE LEFT UOC:175	2
4	PAOOO	18876	8733897	.SUPPORT AND ADJUSTE RIGHT UOC:175	2
5	PAOZZ	19207	8733908	..SUPPORT ASSY LEFT UOC:175	1
5	PAOZZ	19207	8733909	..SUPPORT ASSEMBLY RIGHT UOC:175	1
6	PAOZZ	19207	8336705	..SCREW,BRAKE SHOE AD LEFT SHOE UOC:175	1
6	PAOZZ	19207	8336789	..SCREW,BRAKE SHOE AD RIGHT SHOE UOC:175	1
7	PAOZZ	19207	8336704	..WHEEL,SLACK ADJUSTE UOC:175	2
8	PAOZZ	96906	MS35691-13	.NUT,PLAIN,HEXAGON UOC:175	2
9	PAOZZ	96906	MS35333-41	.WASHER,LOCK UOC:175	2
10	PAOZZ	19207	7412104	.PINION,BRAKE SHOE A UOC:175	2
11	PAOZZ	19207	7412120	.WASHER,FLAT UOC:175	4
12	PAOZZ	19207	8733932	.PLATE,BACKING LEFT UOC:175	1
12	PAOZZ	19207	8733933	.PLATE,BACKING,BRAKE RIGHT UOC:175	1
13	PAOZZ	19207	8720331	.SPRING AND BOLT ASS UOC:175	2

END OF FIGURE

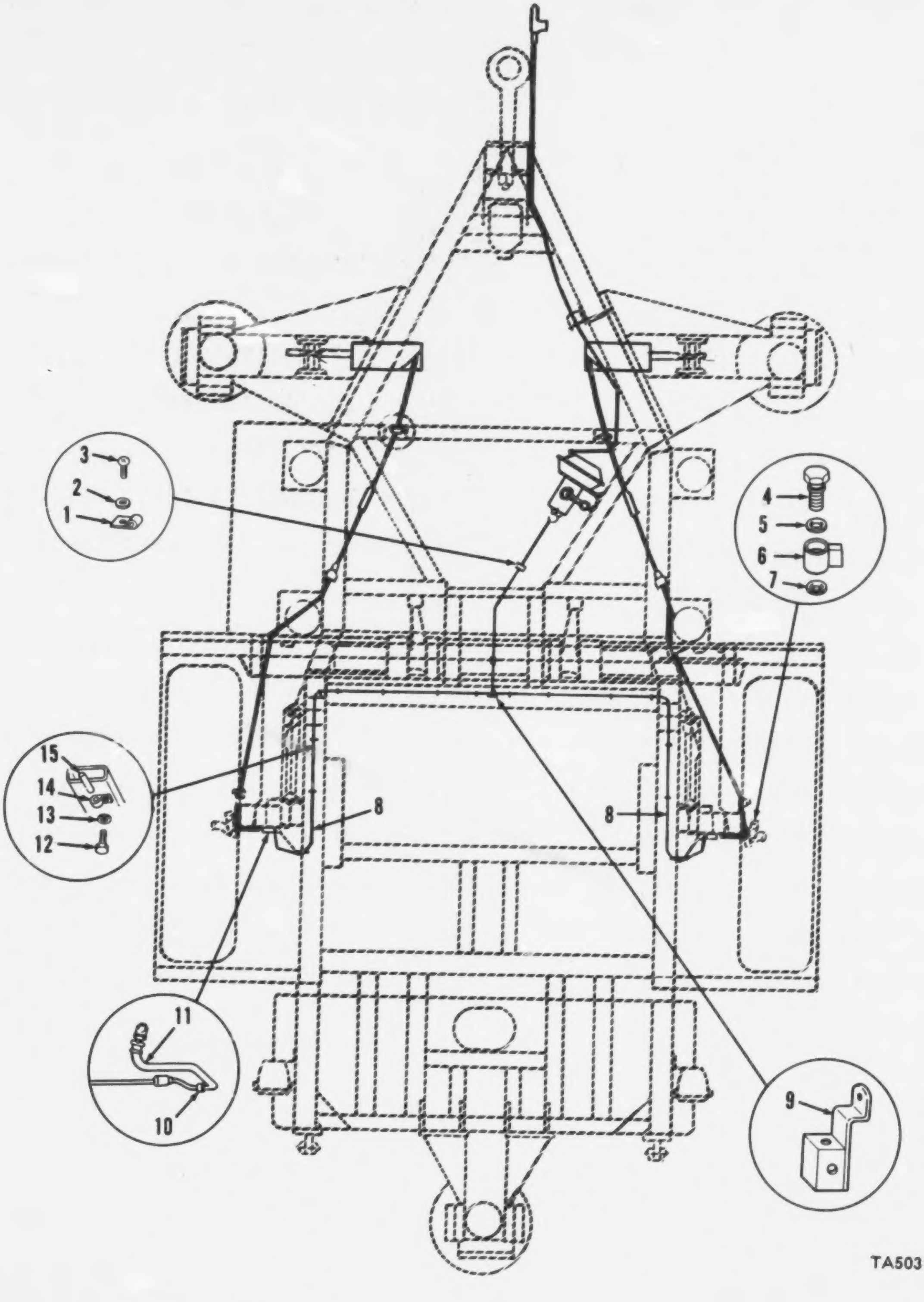
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FIGURE 14. HYDRAULIC BRAKE LINES AND RELATED PARTS, M514.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1204 HYDRAULIC BRAKE SYSTEM	
				FIG. 14 HYDRAULIC BRAKE LINES AND RELATED PARTS, M514	
1	PAOZZ	96906	MS21333-36	CLAMP,LOOP........................ UOC:914	1
2	PAOZZ	96906	MS35335-33	WASHER,LOCK........................ UOC:914	1
3	PAOZZ	96906	MS24649-57	SCREW,CAP........................ UOC:914	1
4	PAOZZ	19207	8017236	BOLT,FLUID PASSAGE................ UOC:914	2
5	PAOZZ	19207	5298653	WASHER,FLAT........................ UOC:914	2
6	PAOZZ	19207	7745464	TEE,TUBE........................ UOC:914	2
7	PAOZZ	19207	5214930	WASHER,FLAT........................ UOC:914	2
8	PAOZZ	19207	8740066	TUBE ASSEMBLY,METAL................ UOC:914	2
9	PAOZZ	24617	127927	TEE,TUBE........................ UOC:914	1
10	PAOZZ	92392	0913475	ELBOW,PIPE TO TUBE................ UOC:914	2
11	PAOZZ	19207	8740064	HOSE ASSEMBLY,NONME................ UOC:914	1
12	PAOZZ	96906	MS24630-46	SCREW,CAP........................ UOC:914	1
13	PAOZZ	96906	MS35338-43	WASHER,LOCK........................ UOC:914	1
14	PAOZZ	96906	MS35140-5	STRAP,RETAINING................ UOC:914	1
15	PAOZZ	99030	LOOM 1/4 ID	CONDUIT,ELECTRICAL................ UOC:914	17

END OF FIGURE

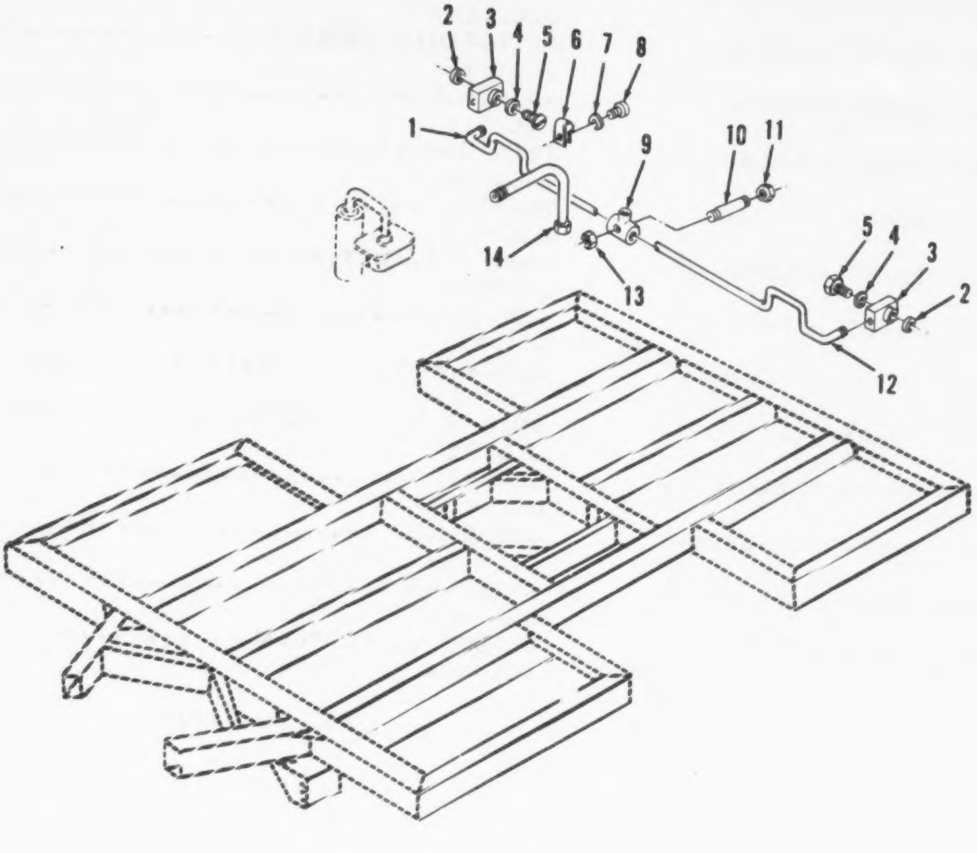
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FIGURE 15. HYDRAULIC BRAKE LINES AND RELATED PARTS, M390C.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1204 HYDRAULIC BRAKE SYSTEM	
				FIG. 15 HYDRAULIC BRAKE LINES AND RELATED PARTS, M390C	
1	PAOZZ	19207	8363982	TUBE ASSEMBLY,METAL RIGHT WHEEL.... UOC:175	1
2	PAOZZ	19207	5298653	SPACER,RING TUBE FITTING............ UOC:175	2
3	PAOZZ	12204	1502415	CONNECTOR,MULTIPLE,................ UOC:175	2
4	PAOZZ	19207	7412088	WASHER,SHOULDERED A.................. UOC:175	2
5	PAOZZ	19207	7412079	BOLT,FLUID PASSAGE.................. UOC:175	2
6	PAOZZ	96906	MS21333-34	CLAMP,LOOP.......................... UOC:175	3
7	PAOZZ	96906	MS35338-44	WASHER,LOCK......................... UOC:175	3
8	PAOZZ	96906	MS35206-277	SCREW,MACHINE....................... UOC:175	3
9	PAOZZ	19207	5167679	CONNECTOR,MULTIPLE, LEFT TO RIGHT TUBE.............................. UOC:175	1
10	PAOZZ	21450	179125	STUD,PLAIN.......................... UOC:175	1
11	PAOZZ	96906	MS51968-11	NUT,PLAIN,HEXAGON................... UOC:175	1
12	PAOZZ	19207	8363983	TUBE ASSY,METAL LEFT WHEEL......... UOC:175	1
13	PAOZZ	96906	MS35691-25	NUT,PLAIN,HEXAGON................... UOC:175	1
14	PAOZZ	19207	8363981	HOSE ASSEMBLY,NONME................. UOC:175	1

END OF FIGURE

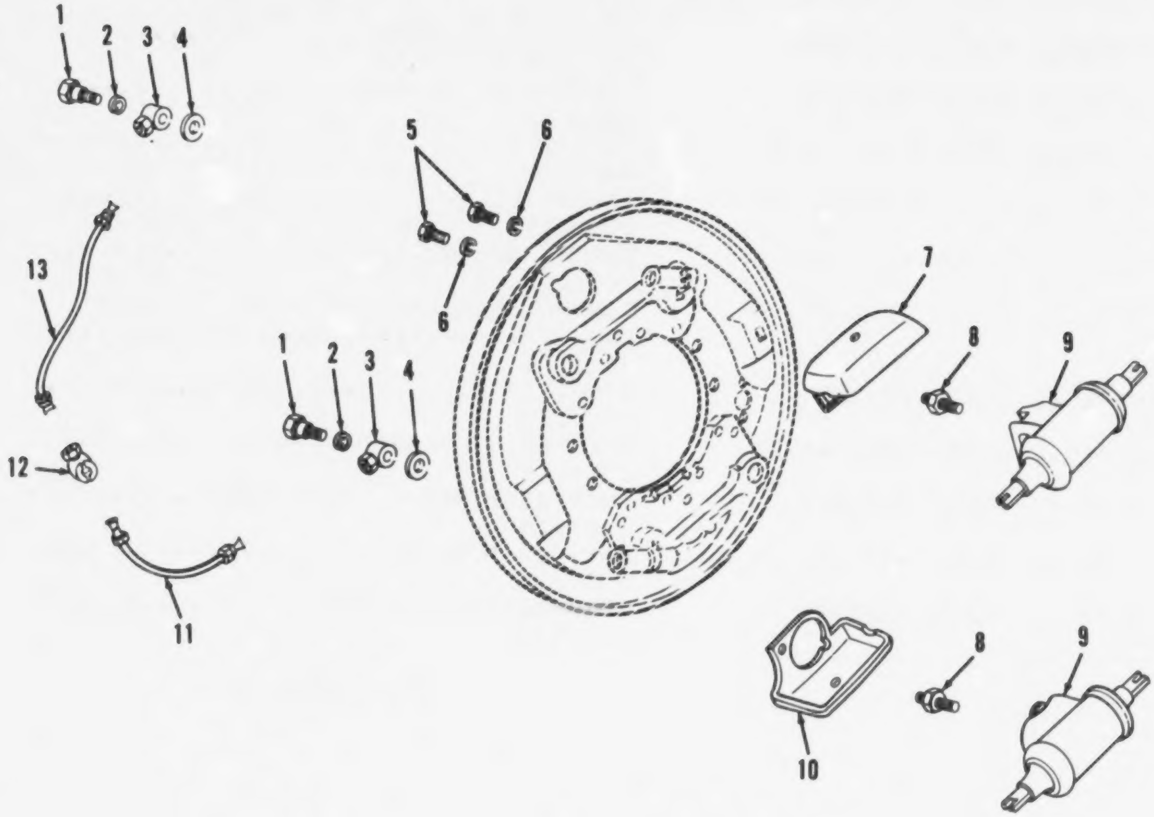
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FIGURE 16. WHEEL CYLINDER AND RELATED PARTS, M390C.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1204 HYDRAULIC BRAKE SYSTEM	
				FIG. 16 WHEEL CYLINDER AND RELATED PARTS, M390C	
1	PAOZZ	19207	7412079	BOLT,FLUID PASSAGE.................. UOC:175	4
2	PAOZZ	19207	5298653	SPACER,RING......................... UOC:175	4
3	PAOZZ	19207	7745464	TEE,TUBE............................ UOC:175	4
4	PAOZZ	19207	7412088	WASHER,SHOULDERED A................. UOC:175	4
5	PAOZZ	96906	MS90725-31	BOLT,MACHINE........................ UOC:175	8
6	PAOZZ	19207	7410218	WASHER,LOCK......................... UOC:175	8
7	PAOZZ	19207	7412068	SHIELD,BRAKE DISK CYLINDER, UPPER.. UOC:175	2
8	PAOZZ	19207	7539268	BLEEDER VALVE,HYDRA................. UOC:175	4
8	PAOZZ	19207	7373260	BLEEDER VALVE,HYDRA................. UOC:175	4
9	PAOZZ	19207	7412065	CYLINDER ASSEMBLY,H................. UOC:175	4
10	PAOZZ	19207	7412050	SHIELD,BRAKE DISK CYLINDER, LOWER.. UOC:175	1
11	PAOZZ	19207	8733920	TUBE ASSEMBLY,METAL BRAKE, LEFT.... UOC:175	1
11	PAOZZ	63477	FD13351	TUBE ASSEMBLY,METAL BRAKE, RIGHT... UOC:175	1
12	PAOZZ	19207	7411903	CONNECTOR,MULTIPLE, BRAKE TUBES.... UOC:175	1
13	PAOZZ	19207	8733922	TUBE ASSEMBLY,METAL BRAKE, LEFT.... UOC:175	1
13	PAOZZ	19207	8733918	TUBE ASSEMBLY,METAL BRAKE, RIGHT... UOC:175	1

END OF FIGURE

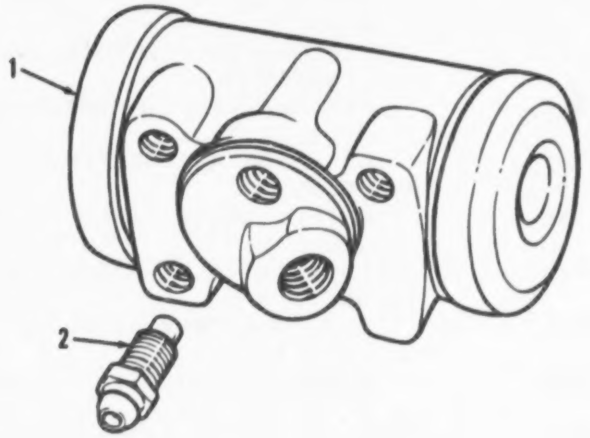

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FIGURE 17. WHEEL CYLINDER ASSEMBLY, M514.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1204 HYDRAULIC BRAKE SYSTEM	
				FIG. 17 WHEEL CYLINDER ASSEMBLY, M514	
1	PAOZZ	19207	8017002	CYLINDER ASSEMBLY,H LEFT............ UOC:914	1
1	PAOZZ	19207	8017003	CYLINDER ASSEMBLY,H RIGHT........... UOC:914	1
2	PAOZZ	19207	7409322	VALVE,BLEEDER,HYDRA................. UOC:914	2

END OF FIGURE

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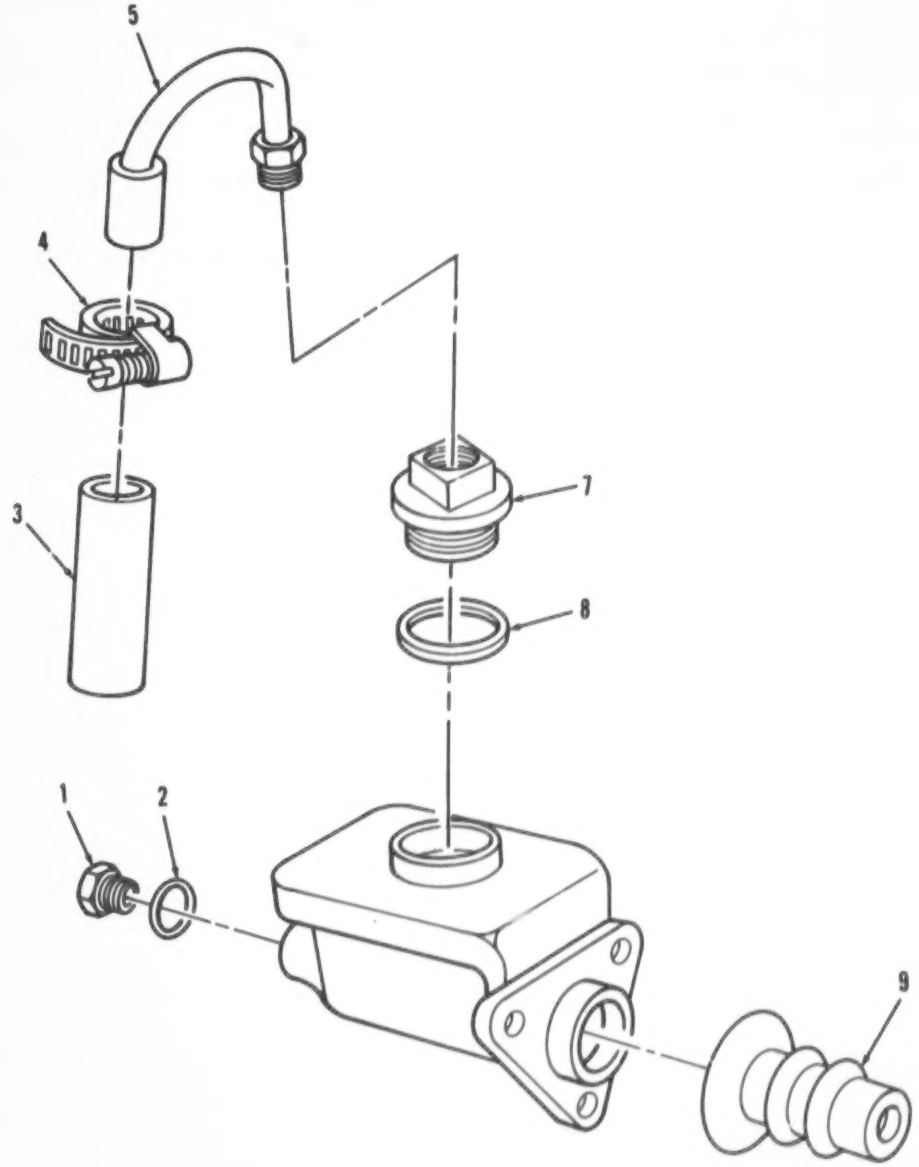

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FIGURE 18. MASTER CYLINDER.

GROUP: 1204 HYDRAULIC BRAKE SYSTEM

FIG. 18 MASTER CYLINDER

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
1	PAOZZ	19207	8365390	REDUCER,TUBE MASTER CYLINDER TO TUBE..................................	1
2	PAOZZ	19207	5156636	GASKET.................................	1
3	PAOZZ	96906	MS521301A204120	HOSE,NONMETALLIC......................	1
4	PAOZZ	96906	MS35842-11	CLAMP,HOSE............................	1
5	PAOZZ	19207	8365426	TUBE ASSEMBLY,METAL...................	1
6	PAOZZ	19207	8357980	CYLINDER ASSEMBLY,H MASTER...........	1
7	PAOZZ	63477	7979691	.CAP,FILLER OPENING...................	1
8	PAOZZ	19207	7373354	.SPACER,RING..........................	1
9	PAOZZ	19207	7979699	.BOOT,DUST AND MOIST..................	1

END OF FIGURE

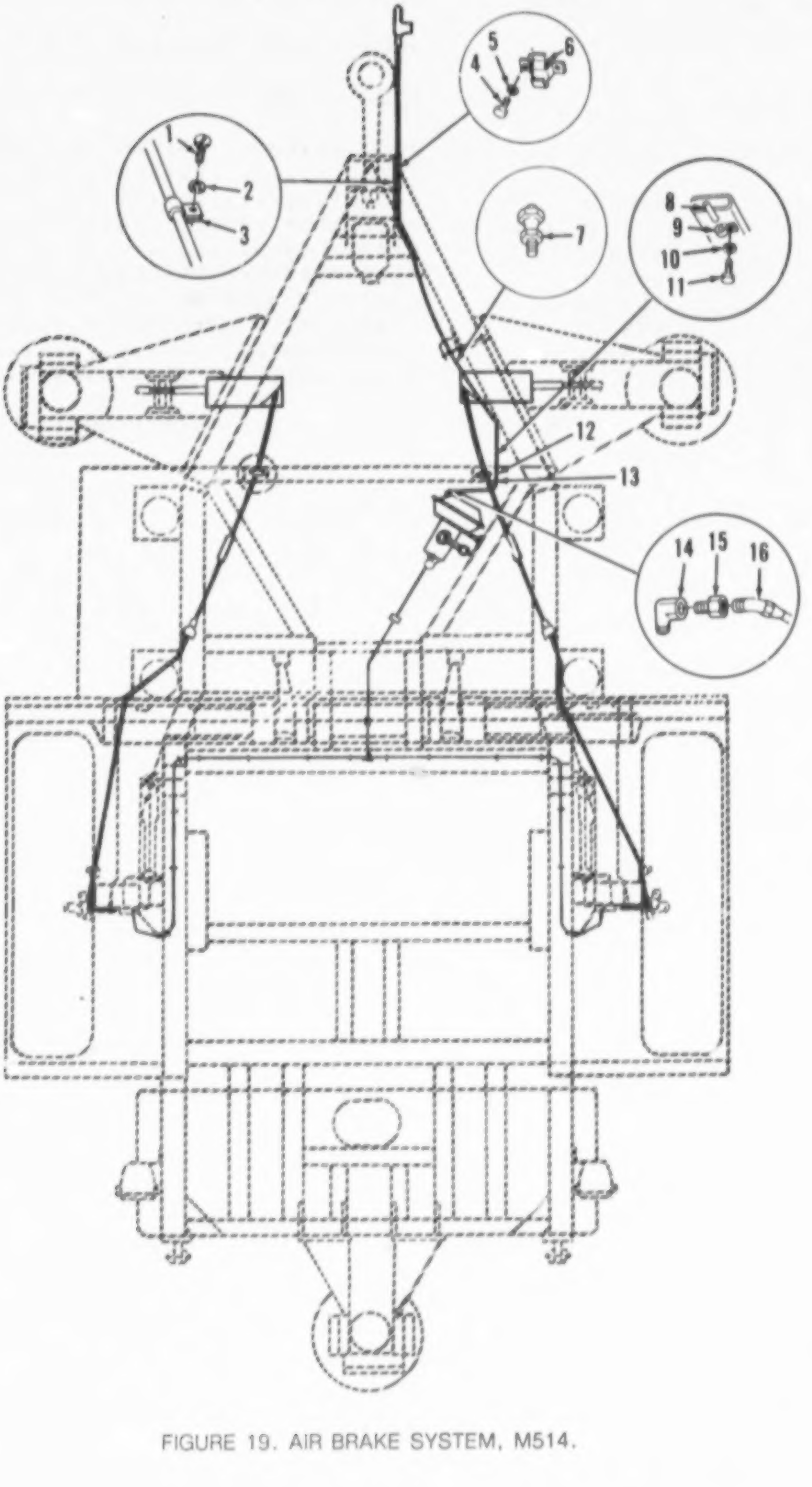
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FIGURE 19. AIR BRAKE SYSTEM, M514.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1208 AIR BRAKE SYSTEM	
				FIG. 19 AIR BRAKE SYSTEM, M514	
1	PAOZZ	96906	MS90725-6	SCREW,CAP,HEXAGON UOC:914	2
2	PAOZZ	96906	MS35338-44	WASHER,LOCK UOC:914	3
3	PAOZZ	96906	MS35140-12	STRAP,RETAINING UOC:914	2
4	PAOZZ	96906	MS90725-31	BOLT,MACHINE UOC:914	1
5	PAOZZ	96906	MS35338-45	WASHER,LOCK UOC:914	1
6	PAOZZ	19207	7979851	BRACKET UOC:914	1
7	PAOZZ	81343	6-4 120102BA	ADAPTER,STRAIGHT,PI UOC:914	1
8	PAOZZ	24617	15039K	TUBE,NONMETALLIC FILTER TO CYLINDER UOC:914	1
9	PAOZZ	96906	MS35140-6	STRAP,RETAINING UOC:914	1
10	PAOZZ	96906	MS35338-43	WASHER,LOCK UOC:914	1
11	PAOZZ	96906	MS24630-46	SCREW UOC:914	1
12	PAOZZ	89619	107AX	TUBE,COPPER FILTER TO CHAMBER UOC:914	1
13	XDOZZ	96906	MS35490-35	GROMMET,NONMETALIC UOC:914	1
14	PAOZZ	19207	444166	ELBOW,PIPE FILTER TO CHAMBER TUBE UOC:914	1
15	PAOZZ	24617	444000	COUPLING,PIPE UOC:914	1
16	PAOZZ	81343	469F6-4	ELBOW,PIPE TO TUBE UOC:914	1

END OF FIGURE

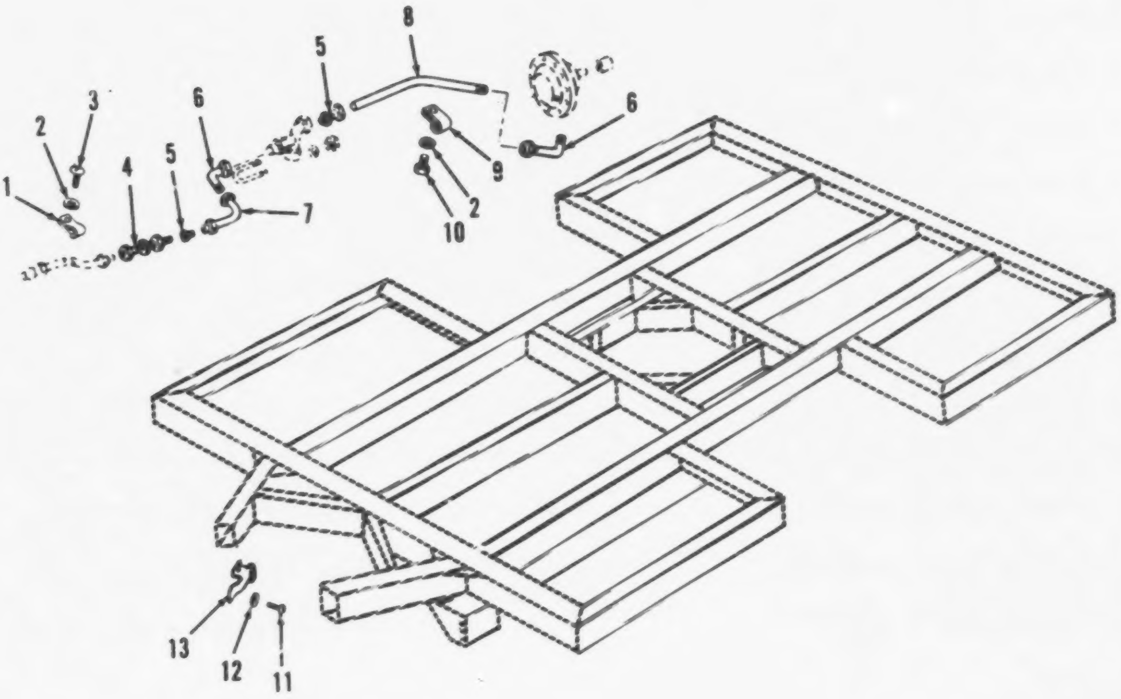
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FIGURE 20. AIR BRAKE SYSTEM, M390C.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1208 AIR BRAKE SYSTEM	
				FIG. 20 AIR BRAKE SYSTEM, M390C	
1	PAOZZ	96906	MS21333-105	CLAMP,LOOP............................ UCC:175	1
2	PAOZZ	96906	MS35338-44	WASHER,LOCK........................... UOC:175	6
3	PAOZZ	96906	MS35206-281	SCREW,MACHINE......................... UCC:175	2
4	PAOZZ	19207	8328782	COUPLING,PIPE......................... UCC:175	1
5	PAOZZ	96906	MS39206-7	ADAPTER,STRAIGHT,PI................... UCC:175	2
6	PAOZZ	96906	MS39202-6	ELBOW,PIPE TO TUBE.................... UCC:175	2
7	PAOZZ	19207	10933343	TUBE ASSEMBLY,METAL................... UCC:175	1
8	PAOZZ	19207	10933345	TUBE ASSEMBLY,METAL FILTER TO CHAMBER............................. UCC:175	1
9	PAOZZ	96906	MS21333-16	CLAMP,LOOP............................ UCC:175	2
10	PAOZZ	96906	MS90725-3	SCREW,CAP,HEXAGON H................... UCC:175	2
11	PAOZZ	96906	MS90725-31	BOLT,MACHINE.......................... UCC:175	1
12	PAOZZ	96906	MS35338-45	WASHER,LOCK........................... UCC:175	1
13	PAOZZ	19207	7979851	BRACKET............................... UCC:175	1

END OF FIGURE

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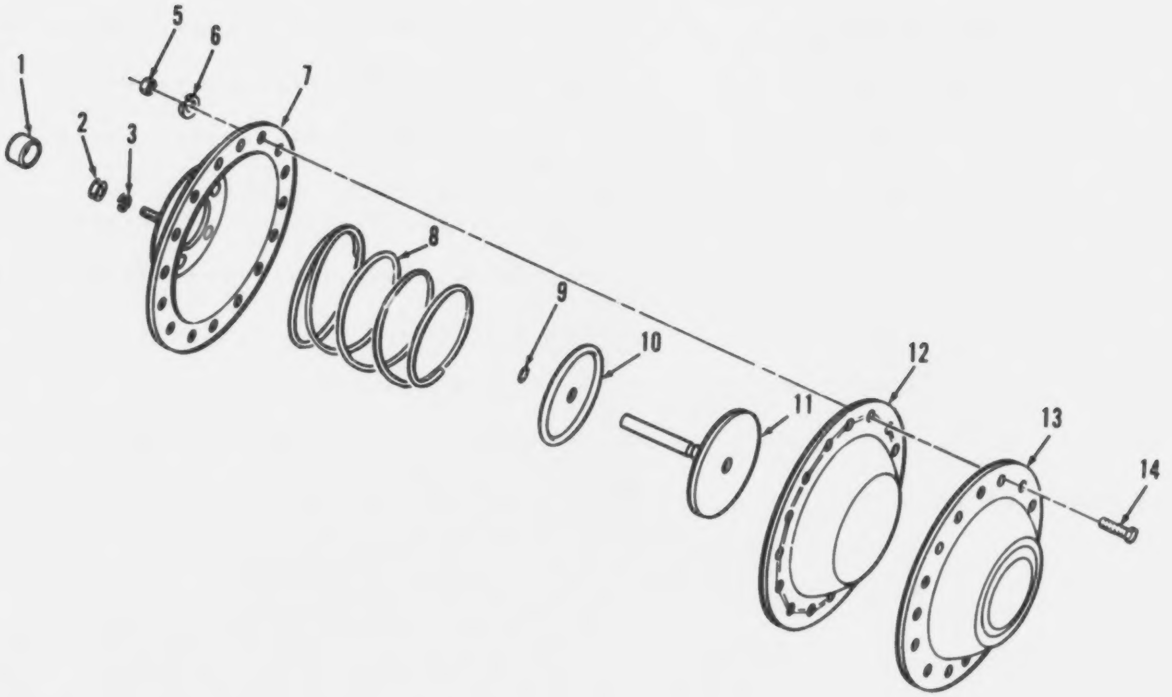
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FIGURE 21. AIR CHAMBER ASSEMBLY.

GROUP: 1208 AIR BRAKE SYSTEM

FIG. 21 AIR CHAMBER ASSEMBLY

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
1	PAOZZ	19207	8365427	COLLAR,AIR CHAMBER	1
2	PAOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON	3
3	PAOZZ	96906	MS35338-46	WASHER,LOCK	3
4	PAOOO	19207	8357981	CHAMBER,AIR BRAKE	1
5	PAOZZ	96906	MS51968-5	.NUT,PLAIN,HEXAGON	16
6	PAOZZ	96906	MS35338-45	.WASHER,LOCK	16
7	PAOZZ	19207	7979605	.BODY ASSEMBLY,CHAMB	1
8	PAOZZ	19207	7979608	.SPRING,HELICAL,COMP	1
9	PAOZZ	96906	MS28775-012	.PACKING,PREFORMED	1
10	PAOZZ	19207	7979610	.RETAINER,HELICAL CO	1
11	PAOZZ	19207	7979599	.ROD,CHAMBER ASSEMBL	1
12	PAOZZ	19207	7979611	.DIAPHRAGM	1
13	XAOZZ	19207	7979602	.COVER	1
14	PAOZZ	96906	MS90726-33	.BOLT,MACHINE	16

END OF FIGURE

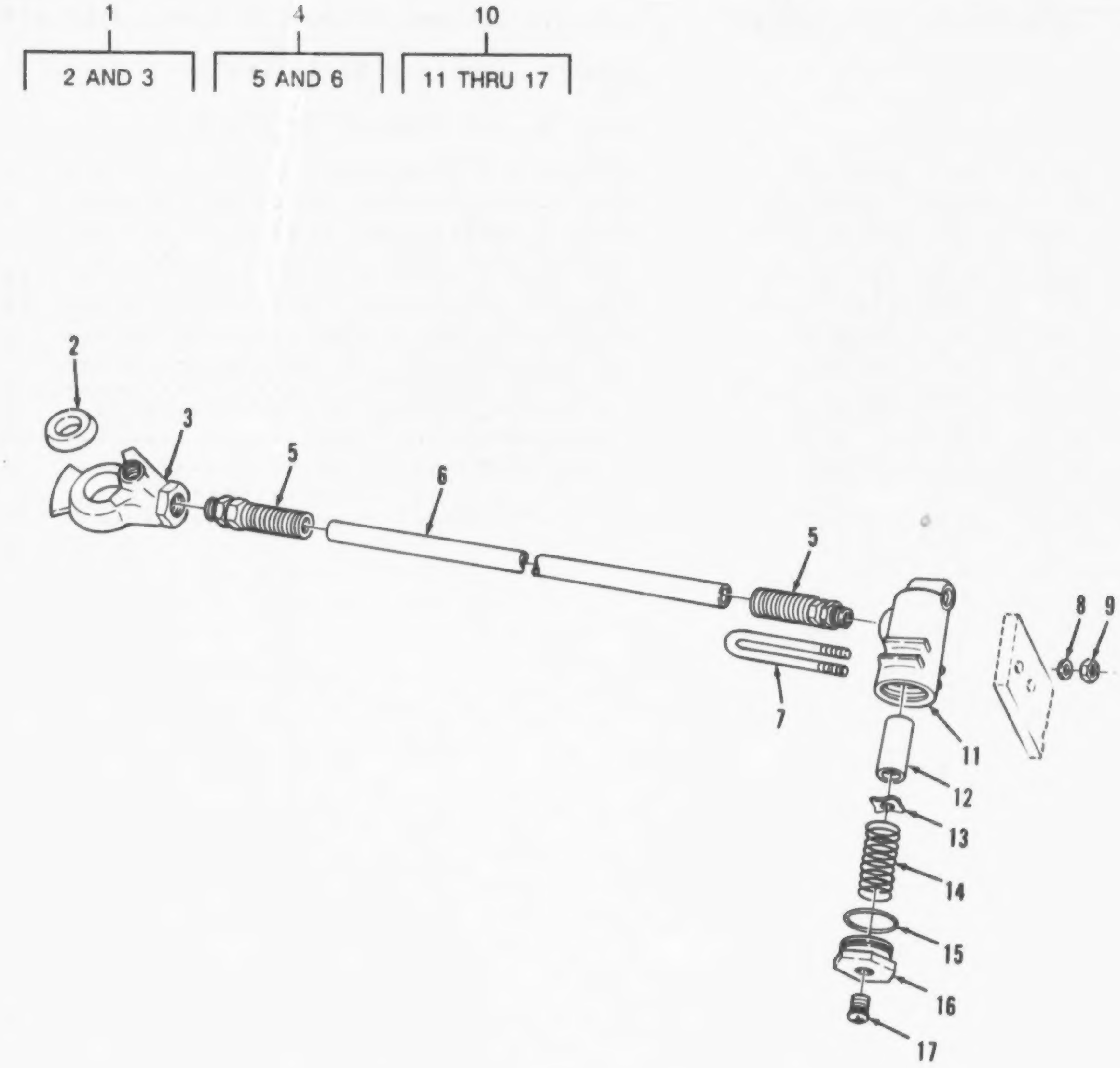
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FIGURE 22. INTERVEHICULAR HOSE AND AIR FILTER ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1208 AIR BRAKE SYSTEM	
				FIG. 22 INTERVEHICULAR HOSE AND AIR FILTER ASSEMBLY	
1	PAOZZ	96906	MS35746-1	COUPLING HALF,QUICK..................	1
2	PAOZZ	96906	MS35748-1	.PACKING,PREFORMED..................	1
3	XDOZZ	19207	500333	.BODY..............................	1
4	PAOZZ	19207	8330805	HOSE ASSEMBLY,NONME.................	1
5	PAOZZ	96906	MS39133-2-B	.ADAPTER,STRAIGHT,PI................	2
6	PAOZZ	18876	8528243	.HOSE,NONMETALLIC...................	1
7	PAOZZ	19207	7979296	BOLT,U.............................	1
8	PAOZZ	96906	MS35338-44	WASHER,LOCK........................	2
9	PAOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON...................	2
10	PAOOO	19207	7411022	AIR FILTER,BRAKE LI.................	1
11	PAOZZ	19207	7415748	.ELBOW BODY,AIR LINE................	1
12	PAOZZ	19207	7411081	.FILTER ELEMENT,FLUI................	1
13	PAOZZ	40342	N12972	.WASHER,SPRING TENSI................	1
14	PAOZZ	06853	235093	.SPRING,HELICAL,COMP................	1
15	PAOZZ	06853	235092	.GASKET............................	1
16	PAOZZ	19207	7979613	.ADAPTER BUSHING....................	1
17	PAOZZ	86640	9112001	.PLUG,PIPE.........................	1

END OF FIGURE

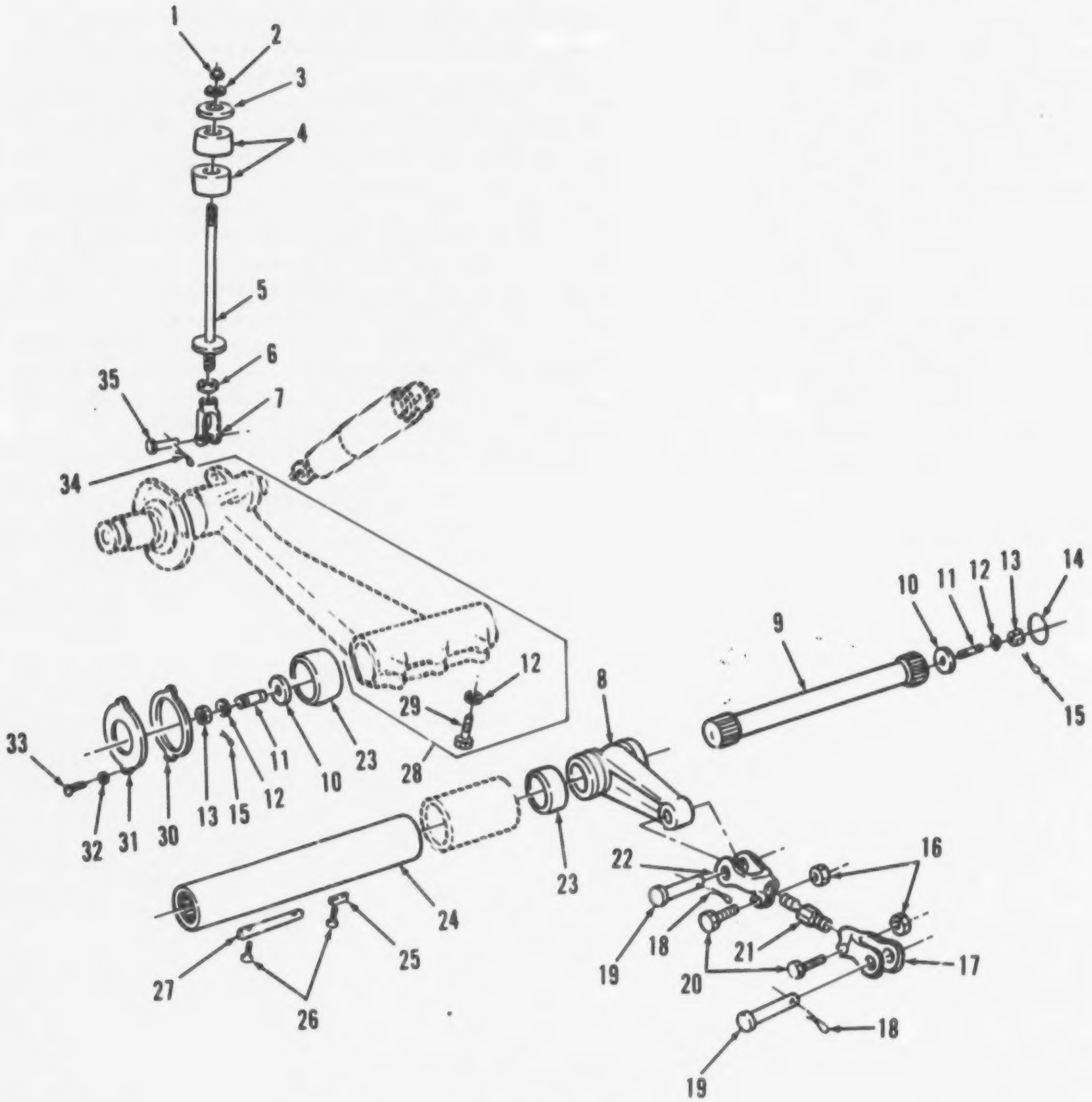
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FIGURE 23. SUSPENSION SYSTEM, M514.

GROUP: 13 WHEELS

GROUP: 1301 SUSPENSION ASSEMBLY

FIG. 23 SUSPENSION SYSTEM, M514

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
1	PAOZZ	96906	MS21045-8	NUT,SELF-LOCKING,HE.................... UOC:914	2
2	PAOZZ	96906	MS27183-18	WASHER,FLAT......................... UOC:914	2
3	PAOZZ	19207	10860119	WASHER,FLAT......................... UOC:914	2
4	PAOZZ	19207	10860120	BUSHING,RUBBER...................... UOC:914	4
5	PAOZZ	19207	10860131	SHAFT,SHOULDERED.................... UOC:914	2
6	PAOZZ	96906	MS35691-37	NUT,PLAIN,HEXAGON................... UOC:914	2
7	PAOZZ	21450	144245	CLEVIS,ROD END...................... UOC:914	2
8	PAOZZ	19207	10860136	SUPPORT,TORSION BAR................. UOC:914	2
9	PAOZZ	19207	10860135	TORSION BAR,SUSPENS RIGHT........... UOC:914	1
9	PAOZF	19207	10860134	TORSION BAR,SUSPENS LEFT............ UOC:914	1
10	PAOZZ	19207	10860128	WASHER,FLAT......................... UOC:914	4
11	PAOZZ	19207	10860129	STUD,PLAIN.......................... UOC:914	4
12	PAOZZ	96906	MS35338-46	WASHER,LOCK......................... UOC:914	4
13	PAOZZ	96906	MS35692-21	NUT,SLOTTED,HEXAGON................. UOC:914	4
14	PAOZZ	96906	MS35648-16	PLUG,EXPANSION...................... UOC:914	2
15	PAOZZ	89749	IF316	PIN,COTTER.......................... UOC:914	4
16	PAOZZ	19207	443339	NUT,SELF-LOCKING,HE................. UOC:914	4
17	PAOZZ	19207	10860117	CLEVIS,ROD END...................... UOC:914	1
18	PAOZZ	96906	MS24665-423	PIN,COTTER.......................... UOC:914	4
19	PAOZZ	19207	10860122	PIN,STRAIGHT,HEADED................. UOC:914	4
20	PAOZZ	96906	MS90728-114	SCREW,CAP,HEXAGON................... UOC:914	4
21	PAOZZ	19207	10860121	SCREW,ADJUSTING..................... UOC:914	2
22	PAOZZ	19207	10860118	CLEVIS,ROD END...................... UOC:914	2

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
23	PAOZZ	19207	10860115	BEARING,SLEEVE......................... UOC:914	4
24	PFOZZ	19207	10860114	COVER,TORSION BAR................... UOC:914	2
25	PAOZZ	19207	10860127	KEY,MACHINE.......................... UOC:914	11
26	PAOZZ	96906	MS35190-254	SCREW,MACHINE........................ UOC:914	4
27	PAOZZ	19207	10860125	KEY,MACHINE.......................... UOC:914	2
28	PAOZZ	19207	10860106	SUSPENSION ARM ASSE LEFT............ UOC:914	1
28	PAOZZ	19207	10860107	SUSPENSION ARM ASSY RIGHT.......... UOC:914	1
29	PAOZZ	96906	MS90725-66	SCREW,CAP,HEXAGON................... UOC:914	3
30	PAOZZ	19207	10860113	GASKET............................... UOC:914	2
31	PFOZZ	19207	10860130	COVER PLATE ACCESS.................. UOC:914	2
32	PAOZZ	96906	MS35338-44	WASHER,LOCK.......................... UOC:914	4
33	PAOZZ	96906	MS90728-3	SCREW,CAP,HEXAGON................... UOC:914	4
34	PAOZZ	96906	MS24665-353	PIN,COTTER........................... UOC:914	2
35	PAOZZ	96906	MS20392-7C37	PIN,STRAIGHT,HEADED................. UOC:914	2

END OF FIGURE

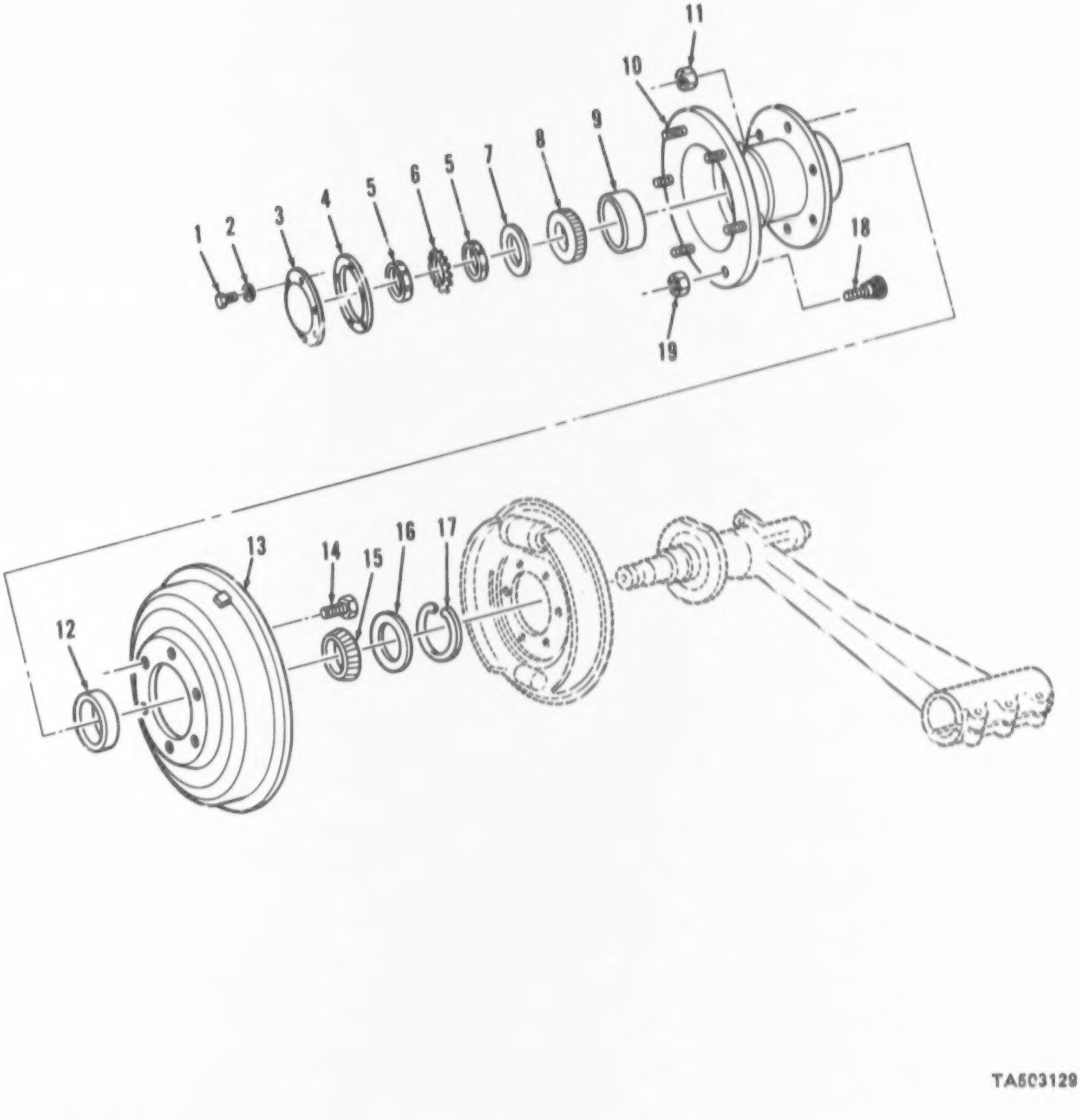

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FIGURE 24. HUB AND DRUM ASSEMBLY, M514.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1311 WHEELS, HUBS, AND DRUMS	
				FIG. 24 HUB AND DRUM ASSEMBLY, M514	
1	PAOZZ	96906	MS90725-84	SCREW,CAP,HEXAGON.................... UOC:914	3
2	PAOZZ	96906	MS35338-47	WASHER,LOCK.......................... UOC:914	3
3	PAOZZ	19207	8675892	COVER,ACCESS......................... UOC:914	1
4	PAOZZ	19207	8675893	GASKET............................... UOC:914	1
5	PAOZZ	96906	MS19068-091	NUT,PLAIN,ROUND...................... UOC:914	2
6	PAOZZ	96906	MS19070-092	WASHER,KEY........................... UOC:914	1
7	PAOZZ	60038	K91509	WASHER,KEY........................... UOC:914	1
8	PAOZZ	08162	BT359S	CONE AND ROLLERS,TA OUTER.......... UOC:914	1
9	PAOZZ	21450	706640	CUP,TAPERED ROLLER................... UOC:914	2
10	PAOZZ	19207	7973176	HUB,BODY............................. UOC:914	1
11	PAOZZ	19207	7222571	NUT,PLAIN,SLOTTED.................... UOC:914	6
12	PAOZZ	61220	28622	CUP,TAPERED ROLLER BEARING......... UOC:914	1
13	PAOFF	09386	78324	BRAKE DRUM........................... UOC:914	1
14	PAOZZ	96906	MS35308-409	SCREW,CAP,HEXAGON.................... UOC:914	6
15	PAOZZ	21450	705472	CONE AND ROLLERS,TA INNER.......... UOC:914	1
16	PAOZZ	81600	C61072ARPC29	SEAL,PLAIN ENCASED................... UOC:914	1
17	PAOZZ	96906	MS16625-1387	RING,RETAINING....................... UOC:914	1
18	PAOZZ	19207	7339238	BOLT,RIBBED SHOULDE RIGHT WHEEL.... UOC:914	6
18	PAOZZ	19207	7339239	BOLT,RIBBED SHOULDE LEFT WHEELS.... UOC:914	6
19	PAOZZ	96906	MS51983-1	NUT,SELF-LOCKING LEFT WHEEL........ UOC:914	6
19	PAOZZ	96906	MS51983-2	NUT,SELF-LOCKING RIGHT WHEEL....... UOC:914	6

END OF FIGURE

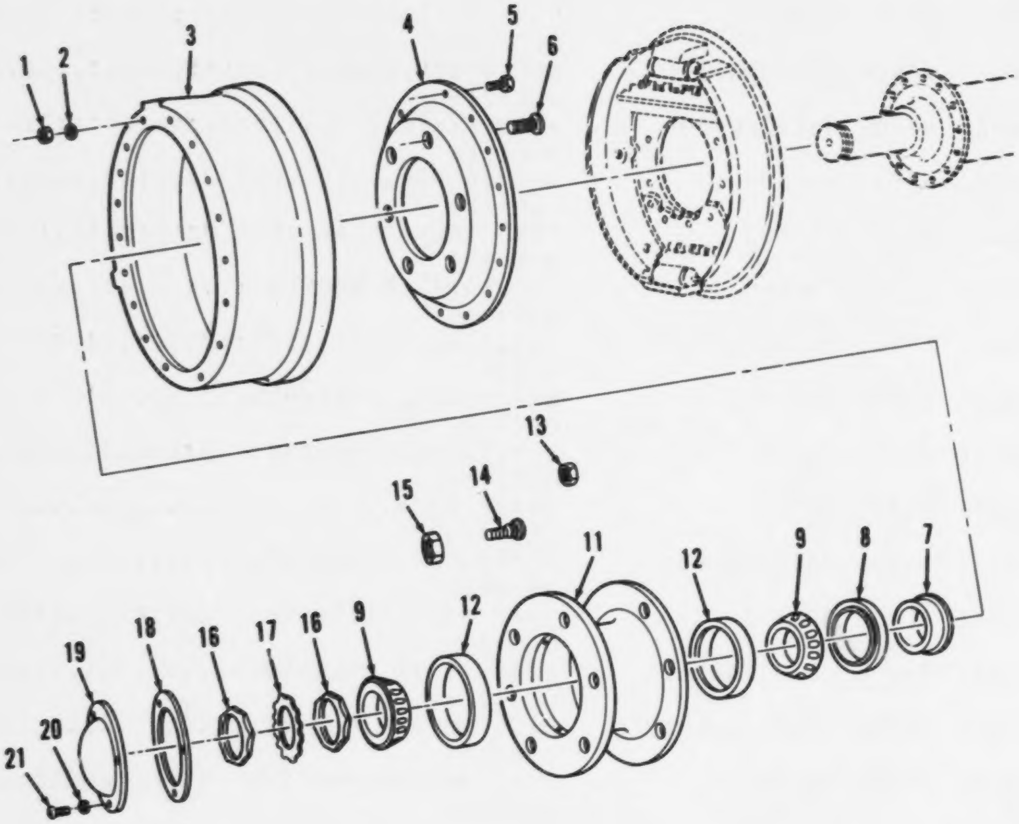
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FIGURE 25. HUB ASSEMBLY, DRUM AND RELATED PARTS, M390C.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1311 WHEELS, HUBS, AND DRUMS	
				FIG. 25 HUB ASSEMBLY, DRUM AND RELATED PARTS, M390C	
1	PAOZZ	96906	MS21045-6	NUT,SELF-LOCKING,HE................ UOC:175	16
2	PAOZZ	96906	MS27183-14	WASHER,FLAT........................ UOC:175	16
3	PAOFF	19207	7411425	BRAKE DRUM......................... UOC:175	2
4	PAOZZ	19207	7413231	BACK FRONT BRAKE DR................ UOC:175	1
5	PAOZZ	09386	70627E	BOLT,RIBBED NECK................... UOC:175	16
6	PAOZZ	19207	8333780	BOLT,RIBBED SHOULDE................ UOC:175	6
7	PAOZZ	19207	7411433	SPACER,SLEEVE...................... UOC:175	1
8	PAOZZ	19207	7411429	SEAL,PLAIN ENCASED................. UOC:175	1
9	PAOZZ	19207	7411376	CONE AND ROLLERS,TA................ UOC:175	2
10	PAOOO	19207	8333771	HUB AND CUP ASSEMBL................ UOC:175	1
11	PAOZZ	19207	8719915	.HUB............................... UOC:175	1
12	PAOZZ	19207	7411377	.CUP,TAPERED ROLLER................ UOC:175	2
13	PAOZZ	96906	MS51943-46	NUT,SELF-LOCKING,HE................ UOC:175	6
14	PAOZZ	96906	MS51946-1	BOLT,RIBBED SHOULDE LEFT WHEEL..... UOC:175	6
14	PAOZZ	09386	68248	BOLT,RIBBED SHOULDE RIGHT WHEEL.... UOC:175	6
15	PAOZZ	96906	MS51983-1	NUT,PLAIN,SINGLE BA LEFT WHEEL..... UOC:175	6
15	PAOZZ	96906	MS51983-2	NUT,PLAIN,SINGLE BA RIGHT WHEEL.... UOC:175	6
16	PAOZZ	19207	7411379	NUT,PLAIN,OCTAGON.................. UOC:175	2
17	PAOZZ	19207	7411378	WASHER,KEY......................... UOC:175	1
18	PAOZZ	50513	25030W	GASKET............................. UOC:175	1
19	PAOZZ	19200	6144454	HUB CAP,WHEEL...................... UOC:175	1
20	PAOZZ	96906	MS35338-63	WASHER,LOCK........................ UOC:175	3
21	PAOZZ	96906	MS35206-279	SCREW,MACHINE...................... UOC:175	3

END OF FIGURE

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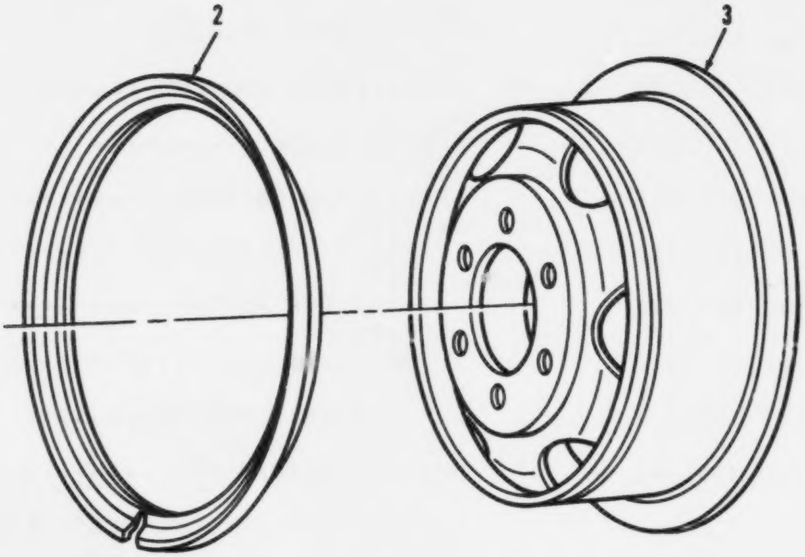

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FIGURE 26. WHEEL AND RIM ASSEMBLY.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1311 WHEELS, HUBS, AND DRUMS	
				FIG. 26 WHEEL AND RIM ASSEMBLY	
1	PAOZZ	96906	MS53044-5	WHEEL,PNEUMATIC TIR..................	2
2	PAOZZ	96906	MS53045-3	.RING,SIDE,AUTOMOTIV................	1
3	PAOZZ	19207	7389620	.WHEEL,PNEUMATIC TIR................	1

END OF FIGURE

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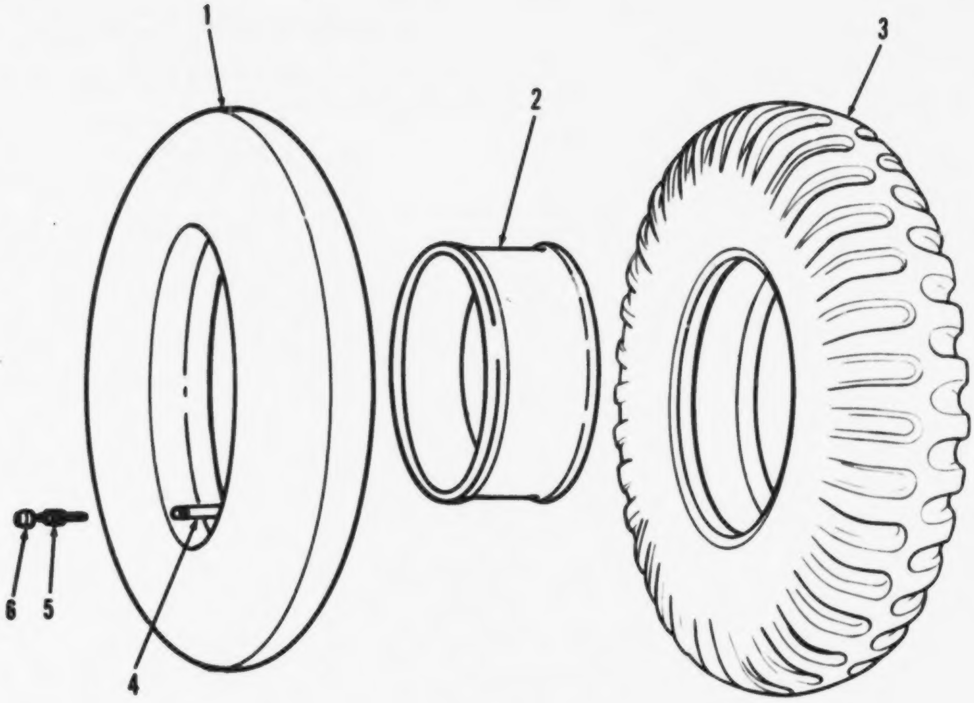

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FIGURE 27. TIRES AND TUBES.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1313 TIRES AND TUBES	
				FIG. 27 TIRES AND TUBES	
1	PAOOO	81348	ZZ-I-550/900-20/TR175A/CNCTR	INNER TUBE,PNEUMATI................. UOC:175,914	2
2	PAOZZ	738C8	20R	FLAP,INNER TUBE,PNE................. UOC:175,914	1
3	PAOFF	81348	ZZ-T-381M/GROUP3/9.00-20/D/TBCC	TIRE,PNEUMATIC...................... UOC:175,914	2
4	PAOZZ	27783	650	VALVE,PNEUMATIC TIR................. UOC:175,914	2
5	PAOZZ	96906	MS51377-1	.VALVE CORE......................... UOC:175,914	2
6	PAOZZ	51665	US48	.CAP,PNEUMATIC VALVE................ UOC:175,914	2

END OF FIGURE

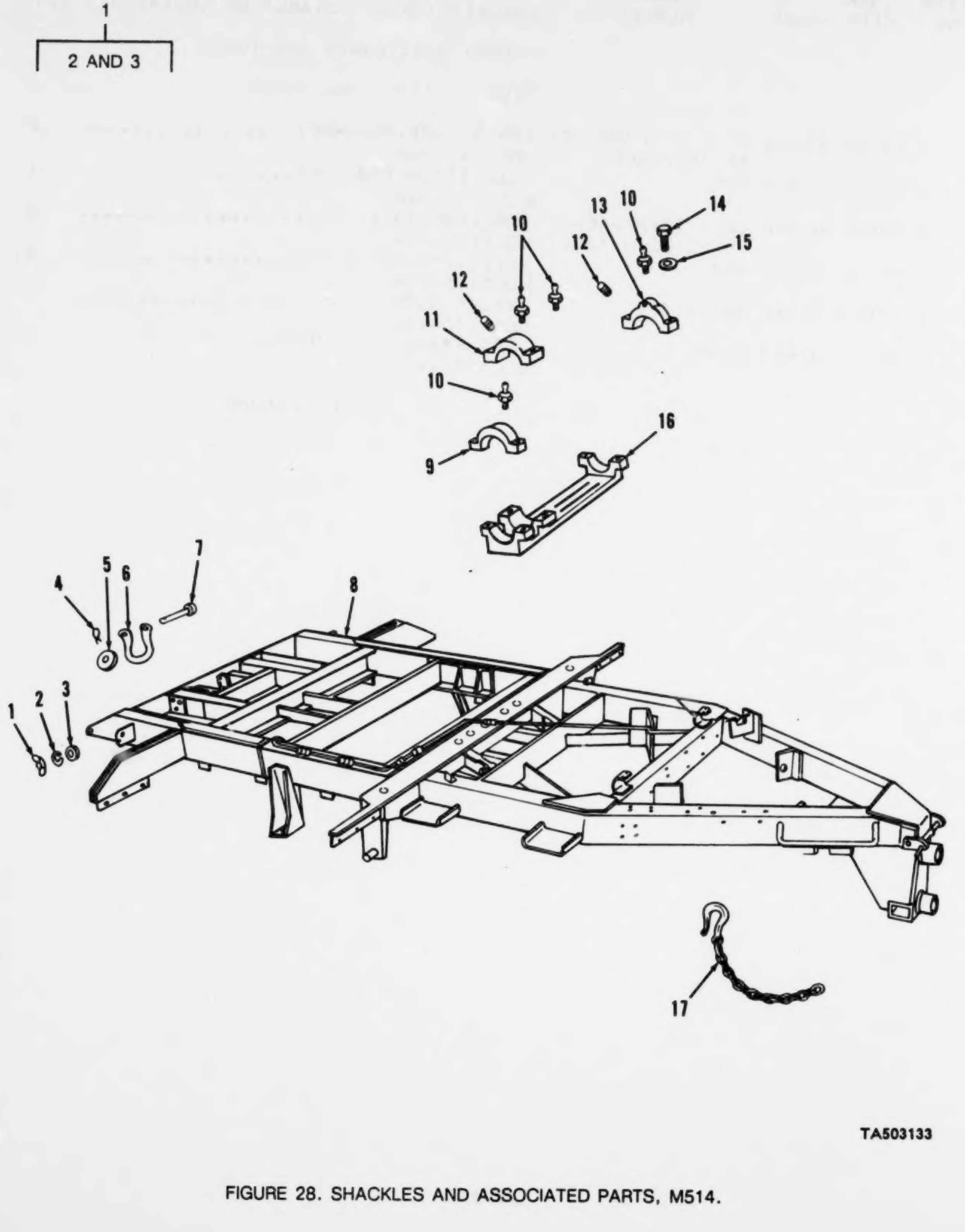
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FIGURE 28. SHACKLES AND ASSOCIATED PARTS, M514.

GROUP: 15 FRAME AND TOWING ATTACHMENTS

GROUP: 1501 FRAME ASSEMBLY

FIG. 28 SHACKLES AND ASSOCIATED PARTS, M514

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
1	PAOZZ	96906	MS35426-18	NUT,PLAIN,WING UOC:914	2
2	PAOZZ	96906	MS35340-48	WASHER,LOCK UOC:914	2
3	PAOZZ	96906	MS27183-19	WASHER,FLAT UOC:914	2
4	PAOZZ	96906	MS24665-355	PIN,COTTER UOC:914	2
5	PAOZZ	96906	MS27183-21	WASHER,FLAT UOC:914	2
6	PAOZZ	19207	9070061	SHACKLE UOC:914	2
7	PAOZZ	96906	MS20392-9C127	PIN,STRAIGHT HEADED UOC:914	2
8	XAFZZ	19207	8739900	FRAME UOC:914	1
9	XBOZZ	19207	8740112	SUPPORT UOC:914	2
10	PAOZZ	96906	MS15003-5	FITTING,LUBRICATION UOC:914	8
11	XBOZZ	19207	8740108	SUPPORT LEFT UOC:914	1
11	XBOZZ	19207	8740109	SUPPORT RIGHT UOC:914	1
12	PAOZZ	96906	MS51955-74	SETSCREW UOC:914	4
13	XBOZZ	19207	8740110	SUPPORT LEFT UOC:914	1
13	XBOZZ	19207	8740111	SUPPORT RIGHT UOC:914	1
14	PAOZZ	96906	MS90726-64	SCREW,CAP,HEXAGON H UOC:914	16
15	PAOZZ	96906	MS35338-46	WASHER,LOCK UOC:914	16
16	XBOZZ	19207	8740113	SUPPORT,SUSPENSION LEFT UOC:914	1
16	XBOZZ	19207	8740114	SUPPORT,SUSPENSION RIGHT UOC:914	1
17	PAOZZ	19207	8686728	CHAIN ASSEMBLY UOC:914	2

END OF FIGURE

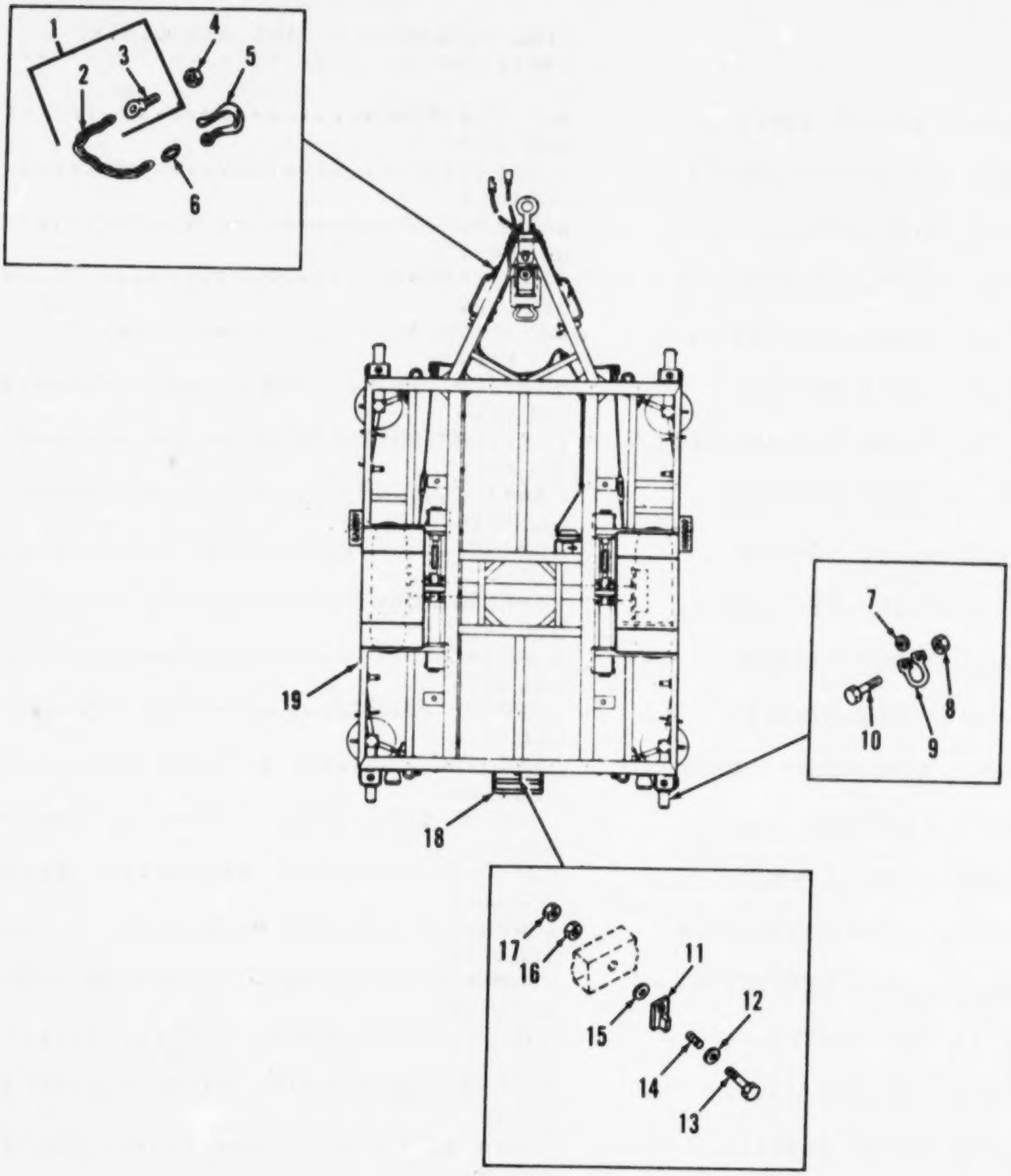
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FIGURE 29. CHAIN, LADDER LATCH, SHACKLES AND ASSOCIATED PARTS, M390C.

GROUP: 1501 FRAME ASSEMBLY

FIG. 29 CHAIN, LADDER LATCH, SHACKLES AND ASSOCIATED PARTS, M390C

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
1	PAOZZ	19207	7411027	CHAIN ASSEMBLY,SING UOC:175	2
2	XAOZZ	80244	42C14495	.CHAIN UOC:175	V
3	PAOZZ	21450	500348	.BOLT,EYE UOC:175	1
4	PAOZZ	96906	MS51922-49	NUT,SELF-LOCKING,HE UOC:175	2
5	XDOZZ	19207	7339460	HOOK UOC:175	2
6	PAOZZ	19207	7979598	LINK,CHAIN,END UOC:175	2
7	PAOZZ	96906	MS27183-23	WASHER,FLAT UOC:175	4
8	PAOZZ	96906	MS51967-23	NUT,PLAIN,HEXAGON UOC:175	4
9	PAOZZ	19207	10891283	SHACKLE UOC:175	4
10	PAOZZ	19207	10891284	BOLT,MACHINE UOC:175	4
11	PAOZZ	19207	8364004	LATCH,RETAINING LADDER UOC:175	1
12	PAOZZ	96906	MS27183-14	WASHER,FLAT UOC:175	1
13	XDOZZ	21450	126670	SCREW UOC:175	1
14	XDOZZ	19207	8364009	SPRING,LADDER UOC:175	1
15	XBOZZ	19207	8364010	WASHER UOC:175	1
16	PAOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON UOC:175	1
17	PAOZZ	96906	MS35691-17	NUT,PLAIN,HEXAGON UOC:175	1
18	XDOZZ	19207	10891229	LADDER, VEHICLE UOC:175	1
19	XAFZZ	19207	10891201	FRAME UOC:175	1

END OF FIGURE

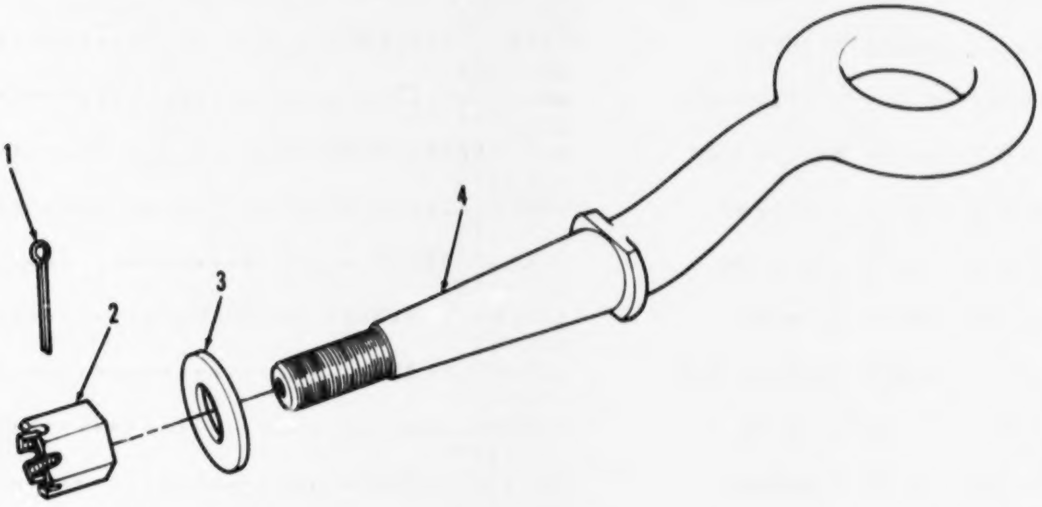

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FIGURE 30. TOWING LUNETTE AND ATTACHING HARDWARE.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1503 TOWING ATTACHMENTS	
				FIG. 30 TOWING LUNETTE AND ATTACHING HARDWARE	
1	PAOZZ	96906	CS24665-499	PIN,COTTER...........................	1
2	PAOZZ	19207	7411028	NUT,PLAIN,SLOTTED,H................. UOC:175	1
2	PAOZZ	19207	7414684	NUT,SLOTTED,HEXAGON................. UOC:914	1
3	PAOZZ	96906	MS27183-29	WASHER,FLAT..........................	1
4	PAOZZ	96906	MS51339-3	COUPLER,DRAWBAR,RIN..................	1

END OF FIGURE

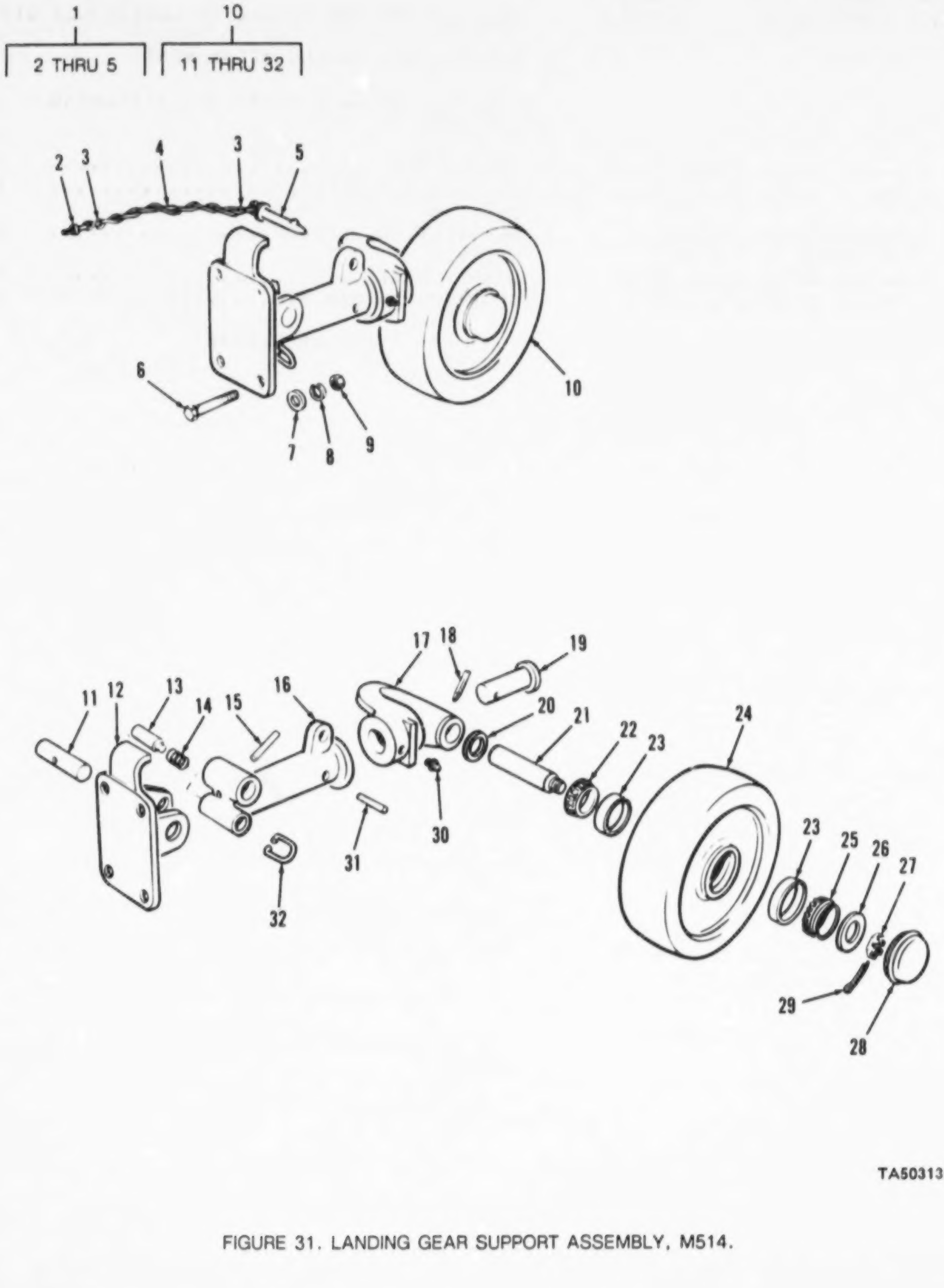
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FIGURE 31. LANDING GEAR SUPPORT ASSEMBLY, M514.

GROUP: 1507 LANDING GEAR, LEVELING JACKS

FIG. 31 LANDING GEAR SUPPORT ASSEMBLY, M514

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
1	PAOZZ	20800	8740192	CHAIN ASSEMBLY,SING UOC:914	1
2	XAOZZ	19207	5203089	.BOLT,EYE UOC:914	1
3	PAOZZ	96906	MS87006-51	.HOOK,CHAIN,S UOC:914	2
4	XBOZZ	81349	RR-C-271BTY1GRCCL5STYLE1	.CHAIN,WELDED UOC:914	V
5	PAOZZ	19207	8740191	.PIN,TOGGLE,EYE COLL UOC:914	1
6	PAOZZ	96906	MS90725-118	SCREW,CAP,HEXAGON UOC:914	4
7	PAOZZ	96906	MS27183-18	WASHER,FLAT UOC:914	4
8	PAOZZ	96906	MS35340-48	WASHER,LOCK UOC:914	4
9	PAOZZ	13305	23507	NUT,PLAIN,HEXAGON UOC:914	4
10	PAOZZ	19207	8364023	SUPPORT,RETRACTABLE UOC:914	1
11	PAOZZ	19207	8364026	.PIN,STRAIGHT,HEADLE UOC:914	1
12	XAOZZ	19207	8364024	.SUPPORT UOC:914	1
13	PAOZZ	52793	13394	.PIN,STRAIGHT HEADED UOC:914	1
14	PAOZZ	19207	8364027	.SPRING,HELICAL UOC:914	1
15	PAOZZ	96906	MS16562-68	.PIN,SPRING UOC:914	1
16	PAOZZ	19207	8364032	.SWIVEL,JACK LEVELIN UOC:914	1
17	XAOZZ	19207	8364031	.SUPPORT UOC:914	1
18	PAOZZ	96906	MS16562-81	.PIN,SPRING UOC:914	1
19	PAOZZ	19207	8364025	.PIN,STRAIGHT,HEADED UOC:914	1
20	XDOZZ	19207	8374028	.SPACER UOC:914	1
21	PAOZZ	19207	8364034	.SPINDLE,WHEEL UOC:914	1
22	PAOZZ	02246	125-298	.CONE AND ROLLERS, UOC:914	1
23	PAOZZ	19207	8364038	.CUP,TAPERED ROLLER UOC:914	2

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
24	PAOZZ	19207	8364036	.WHEEL,METAL TIRE.................... UOC:914	1
25	PAOZZ	19207	7034651	.CONE AND ROLLERS,TA................. UOC:914	1
26	PAOZZ	19207	8740187	.WASHER,FLAT......................... UOC:914	1
27	PAOZZ	19207	7350985	.NUT,PLAIN,SLOTTED,H................. UOC:914	1
28	PAOZZ	19207	8364029	.CAP,GREASE.......................... UOC:914	1
29	PAOZZ	96906	MS24665-357	.PIN,COTTER.......................... UOC:914	1
30	PAOZZ	96906	MS15003-1	.FITTING,LUBRICATION................. UOC:914	1
31	PAOZZ	96906	MS16562-74	.PIN,SPRING.......................... UOC:914	1
32	PAOZZ	19207	7032176	.LINK,CHAIN,END...................... UOC:914	1

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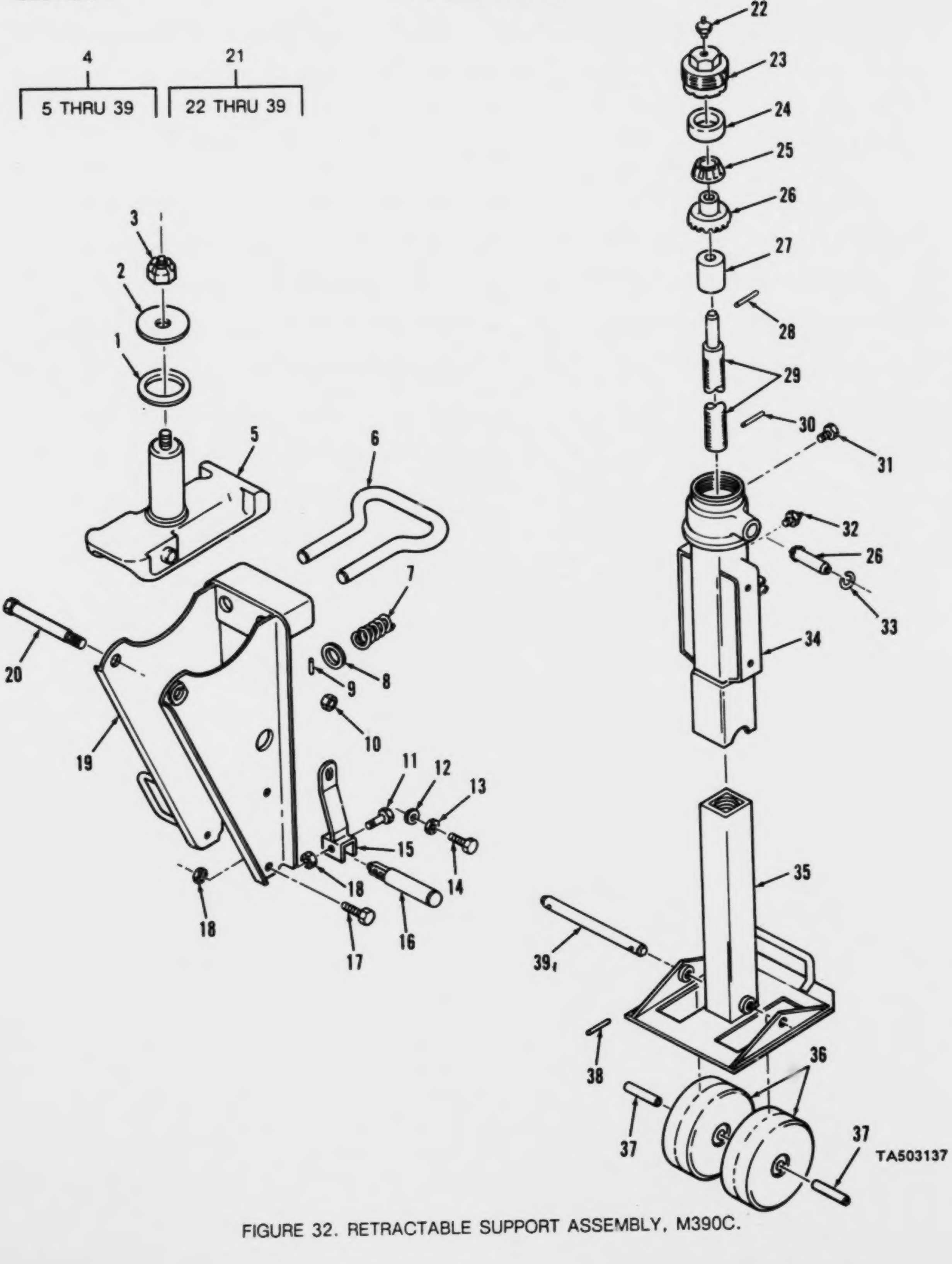
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FIGURE 32. RETRACTABLE SUPPORT ASSEMBLY, M390C.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1507 LANDING GEAR, LEVELING JACKS	
				FIG. 32 RETRACTABLE SUPPORT ASSEMBLY, M390C	
1	PAOZZ	19207	8330821	WASHER,FLAT UOC:175	1
2	PAOZZ	19207	8330813	WASHER,FLAT UOC:175	1
3	PAOZZ	19207	7966195	NUT,SELF-LOCKING,HE UOC:175	1
4	PAOFF	19207	12259830	SUPPORT,RETRACTABLE UOC:175	1
5	PAFZZ	19207	8331539	.SPINDLE,WHEEL,DRIVI UOC:175	1
6	PAFZZ	19207	7979974	.HANDLE UOC:175	1
7	PAFZZ	19207	8331541	.SPRING,HELICAL,COMP UOC:175	2
8	PAFZZ	19207	8331542	.WASHER,RECESSED UOC:175	2
9	PAFZZ	19207	7979971	.PIN,STRAIGHT,HEADLE UOC:175	2
10	PAFZZ	96906	MS51943-42	.NUT,SELF-LOCKING,HE UOC:175	1
11	PAFZZ	96906	MS90727-64	.SCREW,CAP,HEXAGON H UOC:175	1
12	PAFZZ	19207	7032134	.WASHER,FLAT UOC:175	1
13	PAFZZ	19207	7410218	.WASHER,LOCK UOC:175	1
14	PAFZZ	96906	MS90725-31	.BOLT,MACHINE UOC:175	1
15	PAFZZ	19207	7032135	.ARM CRANK,ASSEMBLY UOC:175	1
16	PAFZZ	19207	7032136	.HANDLE ASSEMBLY,HAN UOC:175	1
17	PAFZZ	96906	MS90726-111	.SCREW,CAP,HEXAGON H UOC:175	4
18	PAFZZ	19207	454634	.NUT,SELF-LOCKING,HE UOC:175	1
19	PAFZZ	19207	7032128	.LEG,SEMITRAILER RET FRAME UOC:175	1
20	PAFZZ	19207	7979972	.BOLT,SHOULDER UOC:175	1
21	PAOFF	19207	12259830-1	.SUPPORT,RETRACTABLE UOC:175	1
22	PAOZZ	96906	MS15003-6	..FITTING,LUBRICATION UOC:175	1
23	PAFZZ	19207	7032131	..CAP,GREASE UOC:175	1

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
24	PAFZZ	00006	02420	..CUP,TAPERED ROLLER UOC:175	1
25	PAFZZ	08162	02475	..CONE AND ROLLERS,TA UOC:175	1
26	PAFZZ	19207	11682176	..GEAR SET,BEVEL,MATC UOC:175	1
27	PAFZZ	19207	8020123	..SPACER,SLEEVE UOC:175	1
28	PAFZZ	95026	27X465C	..PIN, GROOVED, UOC:175	1
29	PAFZZ	19207	7032132	..SHAFT,SHOULDERED UOC:175	1
30	PAFZZ	96906	MS35674-41	..PIN,GROOVED,HEADLES UOC:175	1
31	PAFZZ	21450	187745	..SCREW UOC:175	1
32	PAOZZ	96906	MS15003-1	..FITTING,LUBRICATION UOC:175	1
33	PAFZZ	18876	8020716	..SPACER,RING UOC:175	1
34	PAFZZ	19207	7032137	..TUBE ASSEMBLY LANDI UOC:175	1
35	PAFZZ	19207	7032143	..TUBE ASSEMBLY,INNER UOC:175	1
36	PAFZZ	19207	7032155	..WHEEL,METAL TIRE UOC:175	2
37	PAFZZ	19207	7411030	..BEARING,SLEEVE UOC:175	2
38	PAFZZ	96906	MS35674-29	..PIN,GROOVED,HEADLES UOC:175	2
39	PAFZZ	19207	7032156	..PIN,STRAIGHT,HEADLE UOC:175	1

END OF FIGURE

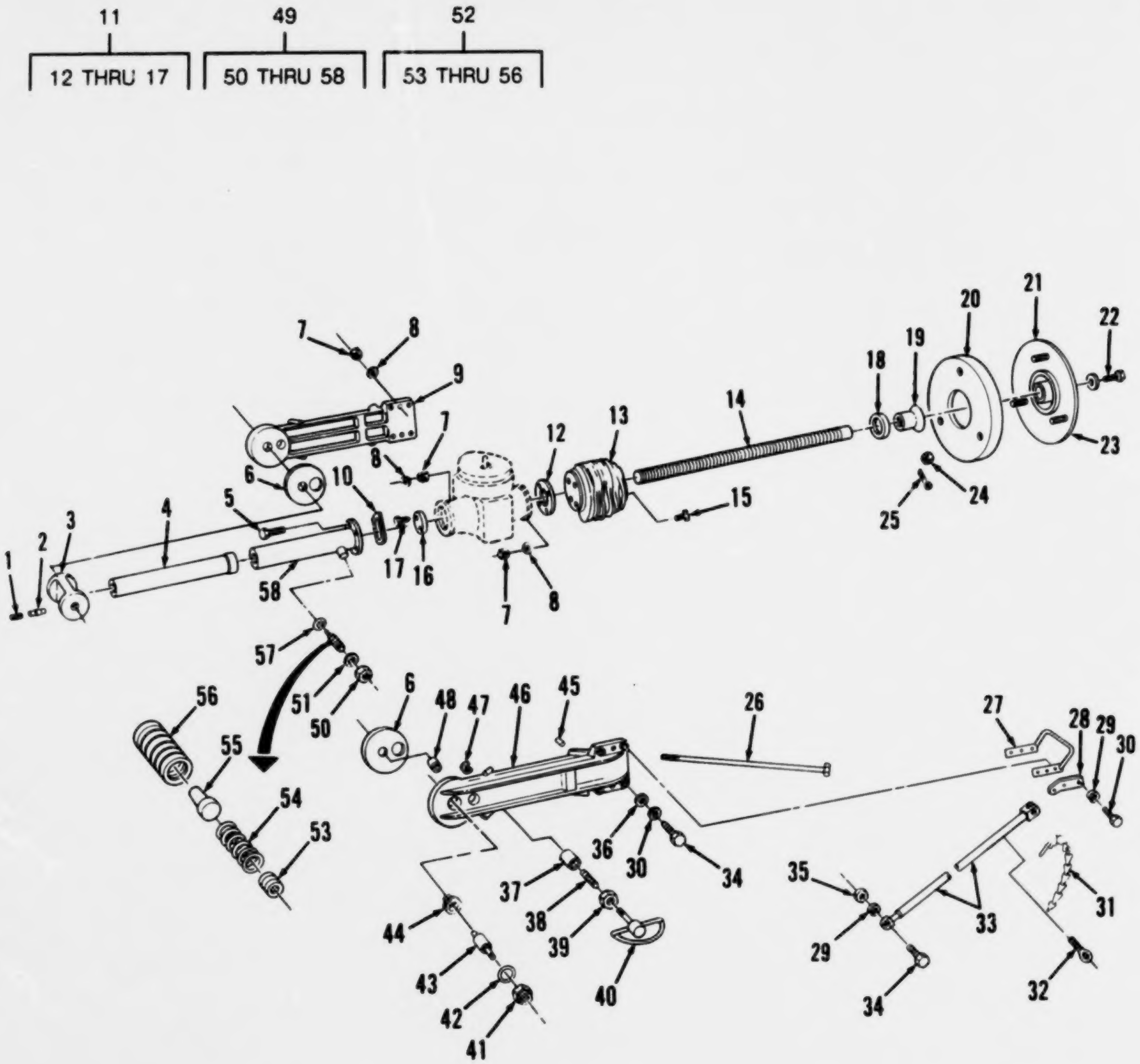
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FIGURE 33. LEVELING JACK AND ASSOCIATED PARTS, M514.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1507 LANDING GEAR, LEVELING JACKS	
				FIG. 33 LEVELING JACK AND ASSOCIATED PARTS, M514	
1	PAOZZ	96906	MS51965-28	SETSCREW................................ UOC:914	1
2	PAOZZ	19207	8759865	INSERT,LEVELING JAC.................... UOC:914	1
3	PAOZZ	19207	10906399	YOKE,LEVELING JACK..................... UOC:914	1
4	PAOZZ	19207	8739876	COVER,SCREW JACK....................... UOC:914	1
5	PAOZZ	96906	MS90725-8	SCREW,CAP,HEXAGON...................... UOC:914	4
6	PAOZZ	19207	10860091	SPACER,PLATE........................... UOC:914	2
7	PAOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON...................... UOC:914	10
8	PAOZZ	96906	MS35338-44	WASHER,LOCK............................ UOC:914	10
9	PAOZZ	19207	10914247	SUPPORT ASSEMBLY,R..................... UOC:914	1
9	PAOZZ	19207	10933282	SUPPORT,ASSEMBLY,LE.................... UOC:914	1
10	PAOZZ	19207	8739881	GASKET................................. UOC:914	1
11	PAOOO	19207	8759746	SUPPORT,RETRACTABLE.................... UOC:914	1
12	XAOZZ	19207	8739883	.PLATE................................. UOC:914	1
13	PAOZZ	19207	7341463	.SLEEVE,SCREW.......................... UOC:914	1
14	PAOZZ	19207	10860938	.ROD,CONTINUOUS THRE................... UOC:914	1
15	PAOZZ	96906	MS35190-289	.SCREW,MACHINE......................... UOC:914	4
16	XAOZZ	19207	8759747	.STOP.................................. UOC:914	1
17	PAOZZ	96906	MS16997-60	.SCREW,CAP,SOCKET...................... UOC:914	2
18	PAOZZ	96906	MS35842-13	CLAMP,HOSE............................. UOC:914	1
19	PAOZZ	19207	8759766	SOCKET ASSEMBLY,SCR.................... UOC:914	1
20	PAOZZ	19207	10860086	COVER,ACCESS........................... UOC:914	1
21	PAOZZ	19207	10860085	SHOE,LEVELING.......................... UOC:914	1
22	PAOZZ	96906	MS90725-164	SCREW,CAP,HEXAGON...................... UOC:914	1

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
23	PAOZZ	96906	MS35335-39	WASHER,LOCK.............................. UOC:914	1
24	PAOZZ	96906	MS35692-37	NUT,SLOTTED,HEXAGON................ UOC:914	3
25	PAOZZ	96906	MS24665-285	PIN,COTTER.............................. UOC:914	3
26	PAOZZ	19207	8759862	ROD,SUPPORT,JACK LE................. UOC:914	2
27	PAOZZ	19207	10914359	BAR,HANDLE.............................. UOC:914	1
28	XDOZZ	19207	8759904	BRACKET,LEVELING JA RIGHT REAR..... UOC:914	1
29	PAOZZ	96906	MS35338-46	WASHER,LOCK.............................. UOC:914	16
30	PAOZZ	96906	MS90725-66	SCREW,CAP,HEXAGON.................... UOC:914	1
31	PAOZZ	19207	8759898	PIN,QUICK RELEASE..................... UOC:914	1
32	PAOZZ	19207	8759899	EYE BOLT.................................. UOC:914	1
33	PAOZZ	19207	8759903	SUPPORT ASSEMBLY,LE................. UOC:914	2
34	PAOZZ	96906	MS90725-65	SCREW,CAP,HEXAGON.................... UOC:914	13
35	PAOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON.................... UOC:914	1
36	PAOZZ	96906	MS27183-14	WASHER,FLAT.............................. UOC:914	12
37	XDOZZ	19207	8759860	PLUNGER,INDEX.......................... UOC:914	2
38	XDOZZ	19207	8759859	SPRING,HELICAL,COMP RESSION........ UOC:914	2
39	PAOZZ	19207	8759823	RETAINER,SPRING........................ UOC:914	2
40	PAOZZ	19207	8740175	RETRACTOR,PLUNGER,L.................. UOC:914	2
41	PAOZZ	96906	MS51922-57	NUT,SELF-LOCKING,HE XAGON........... UOC:914	2
42	PAOZZ	96906	MS27183-23	WASHER,FLAT.............................. UOC:914	2
43	XDOZZ	19207	8759867	SHAFT,SHOULDERED..................... UOC:914	2
44	PAOZZ	19207	10906407	CASE,LEVELING JACK................... UOC:914	2
45	XDOZZ	19207	544160	PIN,STRAIGHT,HEADLE.................. UOC:914	4
46	XDOZZ	19207	10933281	SUPPORT,LEVELING JA CK, REAR....... UOC:914	2
46	PAOZZ	19207	10914245	SUPPORT,LEVELING JA FRONT......... UOC:914	2
47	PAOZZ	96906	MS16624-1125	RING,RETAINING......................... UOC:914	2

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
48	PAOZZ	19207	10906406	BEARING,SLEEVE UOC:914	2
49	PAOOO	19207	10860937	COVER,LEVELING JACK UOC:914	1
50	PAOZZ	96906	MS35691-33	.NUT,PLAIN,HEXAGON UOC:914	1
51	PAOZZ	96906	MS27183-18	.WASHER,FLAT UOC:914	1
52	XDOOO	19207	7341458	.PLUNGER,QUICK RELEA UOC:914	1
53	PAOZZ	96906	MS51963-99	..SETSCREW UOC:914	1
54	XAOZZ	19207	7341461	..SPRING UOC:914	1
55	XAOZZ	19207	7341460	..PIN UOC:914	1
56	XAOZZ	19207	7341459	..BODY UOC:914	1
57	XAOZZ	19207	8739882	.WASHER UOC:914	1
58	XAOZZ	19207	10860936	.COVER UOC:914	1

END OF FIGURE

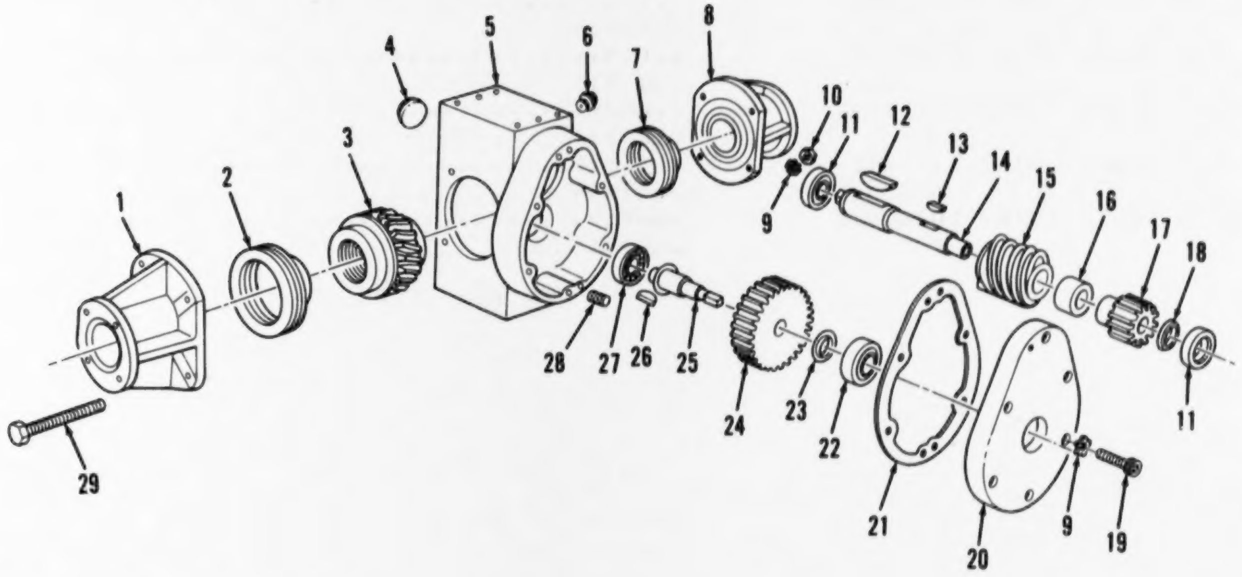
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FIGURE 34. LEVELING JACK GEARBOX, M514.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1507 LANDING GEAR, LEVELING JACKS	
				FIG. 34 LEVELING JACK GEARBOX, M514	
1	XDFZZ	19207	8739798	SUPPORT UOC:914	1
2	XDFZZ	10001	1785042	BEARING,BALL,THRUST UOC:914	1
3	PAFZZ	19207	8739795	GEAR,WORM WHEEL UOC:914	1
4	PAOZZ	21450	541401	PLUG,EXPANSION UOC:914	1
5	XBFZZ	19207	8739799	BOX,GEAR UOC:914	1
6	PAOZZ	96906	MS15003-1	FITTING,LUBRICATION UOC:914	1
7	XDFZZ	19207	8675963	BEARING,BALL,THRUST UOC:914	1
8	XBFZZ	19207	8739797	SUPPORT UOC:914	1
9	PAFZZ	96906	MS35335-34	WASHER,LOCK UOC:914	10
10	PAFZZ	96906	MS51967-5	NUT,PLAIN,HEXAGON UOC:914	4
11	PAFZZ	43991	110AC	BEARING,BALL,ANNULA UOC:914	2
12	PAFZZ	96906	MS35756-101	KEY,WOODRUFF UOC:914	1
13	PAFZZ	96906	MS35756-10	KEY,WOODRUFF UOC:914	1
14	PAFZZ	19207	8740168	SHAFT,SHOULDERED UOC:914	1
15	PAFZZ	19207	8739794	GEAR,WORM UOC:914	1
16	XBFZZ	19207	8739787	SPACER UOC:914	1
17	PAFZZ	19207	8739792	GEAR,SPUR UOC:914	1
18	PFFZZ	19207	8739786	WASHER,SHOULDERED UOC:914	1
19	PAFZZ	96906	MS16997-81	SCREW,CAP,SOCKET UOC:914	6
20	XBFZZ	19207	8740166	COVER UOC:914	1
21	PAFZZ	19207	8740167	GASKET UOC:914	1
22	PAFZZ	52676	6204ZJ	BEARING,BALL,ANNULA UOC:914	1
23	PFFZZ	19207	8739788	WASHER,SHOULDERED UOC:914	2
24	PAFZZ	19207	8739793	GEAR,SPUR	1

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				UOC:914	
25	PAFZZ	19207	8740170	SHAFT,SHOULDERED.................... UOC:914	1
26	PAFZZ	96906	MS35756-12	KEY,WOODRUFF......................... UOC:914	1
27	PAFZZ	21450	700076	BEARING,BALL,ANNULA.................. UOC:914	1
28	PFFZZ	44674	20020	PIN,STRAIGHT,HEADLE.................. UOC:914	2
29	PAFZZ	96906	MS90725-52	SCREW,CAP,HEXAGON.................... UOC:914	4

END OF FIGURE

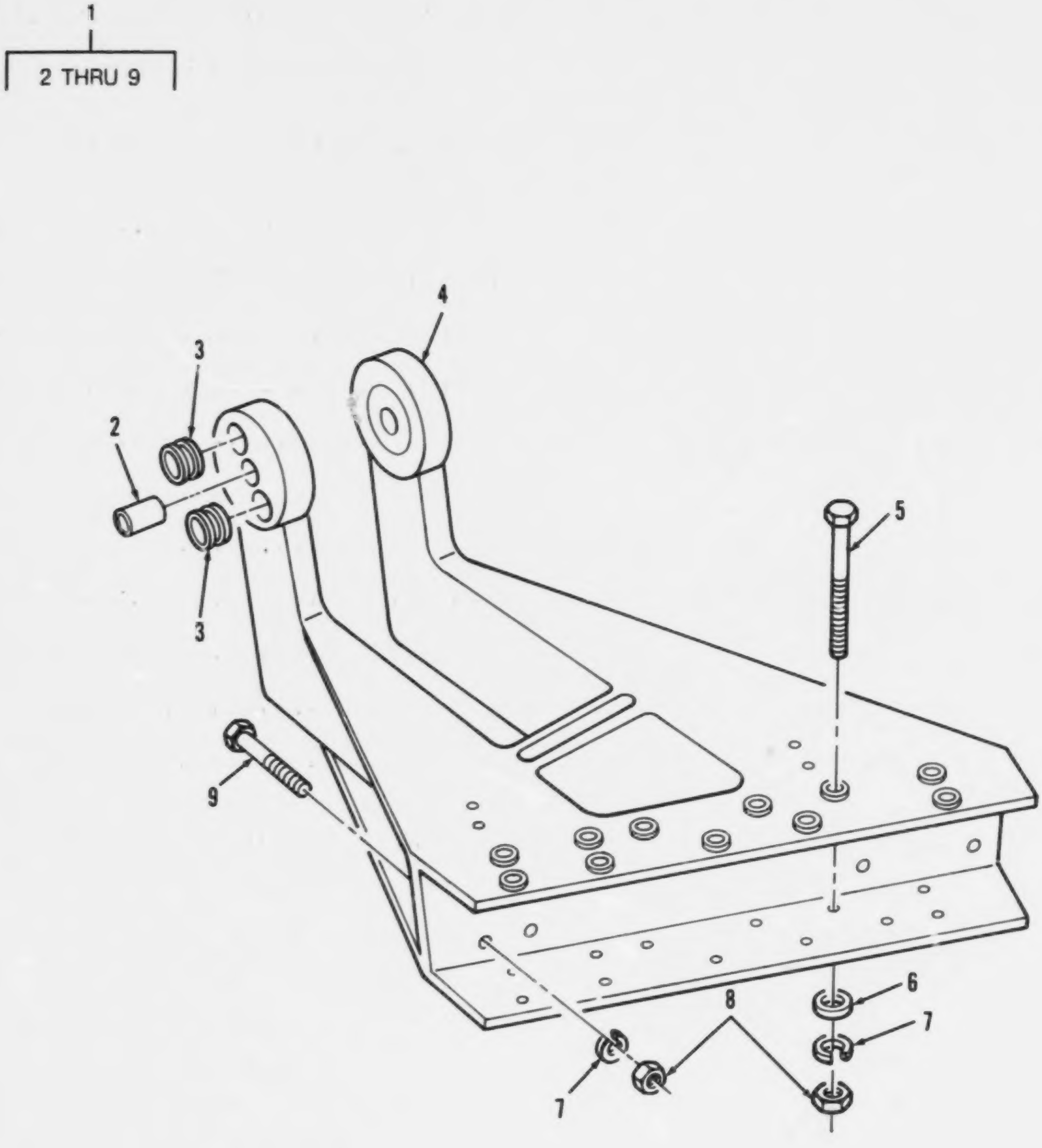
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FIGURE 35. FRONT LEVELING JACK SUPPORT ASSEMBLY, M514.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1507 LANDING GEAR, LEVELING JACKS	
				FIG. 35 FRONT LEVELING JACK SUPPORT ASSEMBLY, M514	
1	PAOOO	19207	10914244	SUPPORT,LEVELING JA LEFT............ UCC:914	1
1	PAOOO	19207	10914243	SUPPORT,LEVELING JA RIGHT........... UCC:914	1
2	XDOZZ	19207	10860065	.BEARING,SLEEVE...................... UCC:914	4
3	XDOZZ	19207	10899780	.BEARING,SLEEVE...................... UCC:914	8
4	XAOZZ	19207	10914241	.SUPPORT,LEFT........................ UOC:914	1
4	XAOZZ	19207	10914242	.SUPPORT,RIGHT....................... UCC:914	1
5	PAOZZ	96906	MS90725-400	.SCREW,CAP,HEXAGON................... UOC:914	16
6	PAOZZ	96906	MS27183-14	.WASHER,FLAT......................... UCC:175	16
7	PAOZZ	96906	MS35338-46	.WASHER,LOCK......................... UOC:914	24
8	PAOZZ	96906	MS51968-8	.NUT,PLAIN,HEXAGON................... UCC:914	24
9	PAOZZ	96906	MS90726-74	.SCREW,CAP,HEXAGON................... UCC:914	8

END OF FIGURE

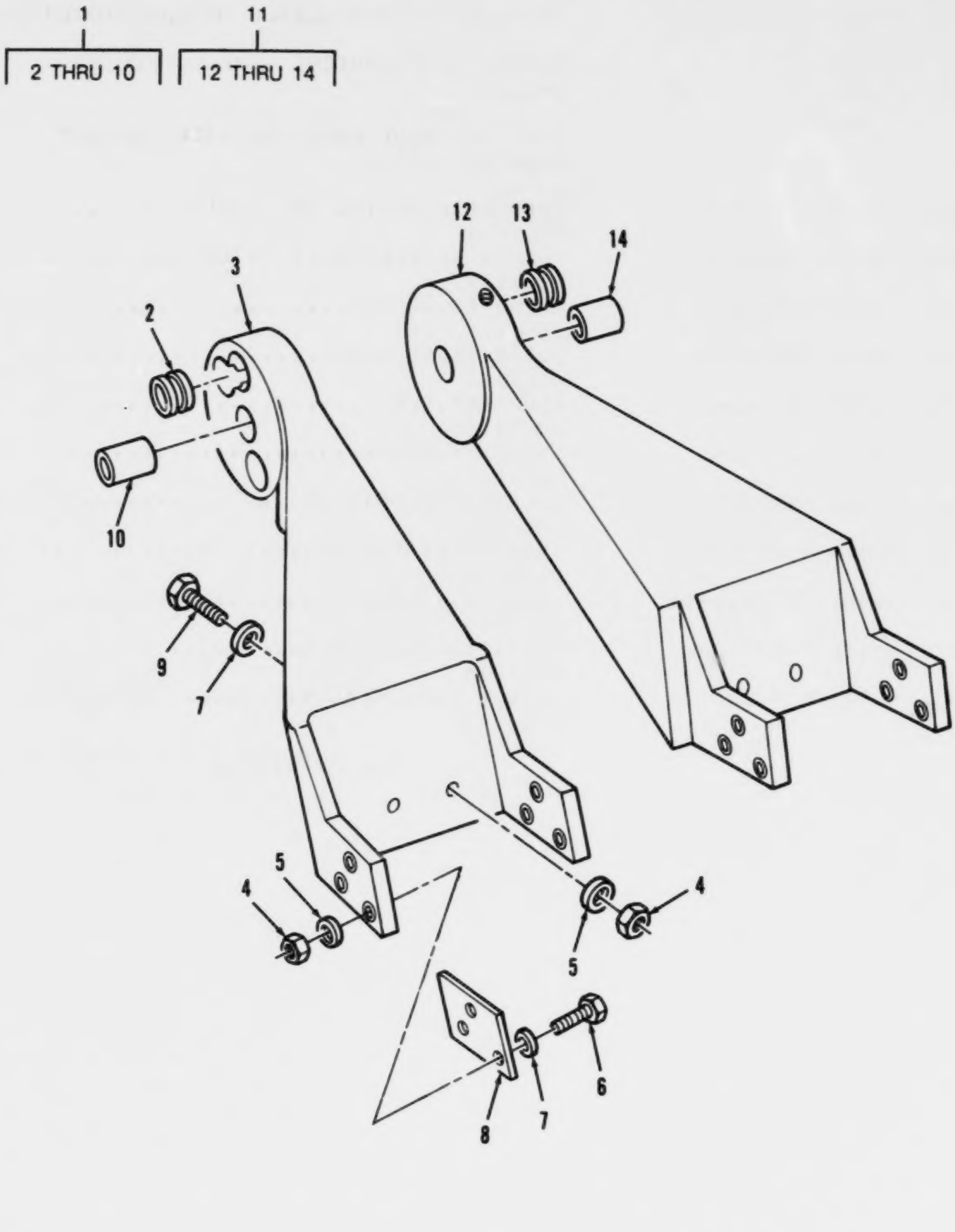
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FIGURE 36. REAR LEVELING JACK SUPPORT ASSEMBLY, M514.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1507 LANDING GEAR, LEVELING JACKS	
				FIG. 36 REAR LEVELING JACK SUPPORT ASSEMBLY, M514	
1	PAOOO	19207	10860068	JACK,LEVELING-SUPPORT,RIGHT REAR.. UOC:914	1
2	XDOZZ	19207	10899780	.BEARING,SLEEVE...................... UOC:914	2
3	XAOZZ	19207	10906396	.SUPPORT............................. UOC:914	1
4	PAOZZ	96906	MS21045-6	.NUT,SELF-LOCKING.................... UOC:914	16
5	PAOZZ	96906	MS27183-14	.WASHER,FLAT......................... UOC:914	16
6	PAOZZ	88044	AN6-14A	.BOLT,MACHINE........................ UOC:914	12
7	PAOZZ	96906	MS5795-714	.WASHER,FLAT......................... UOC:914	16
8	PAOZZ	19207	8759769	.SHIM................................ UOC:914	2
9	XDOZZ	19207	7415340	BOLT,CAP,HEXAGON..................... UOC:914	4
10	XDOZZ	19207	10860065	.BEARING,SLEEVE...................... UOC:914	1
11	PAOOO	19207	10860069	JACK,LEVELING-SUPPORT, LEFT REAR.. UOC:914	1
12	XAOZZ	19207	108063967	.SUPPORT............................. UOC:914	1
13	XAOZZ	19207	10899780	.BEARING,SLEEVE...................... UOC:914	1
14	XDOZZ	19207	10860065	.BEARING,SLEEVE...................... UOC:914	1

END OF FIGURE

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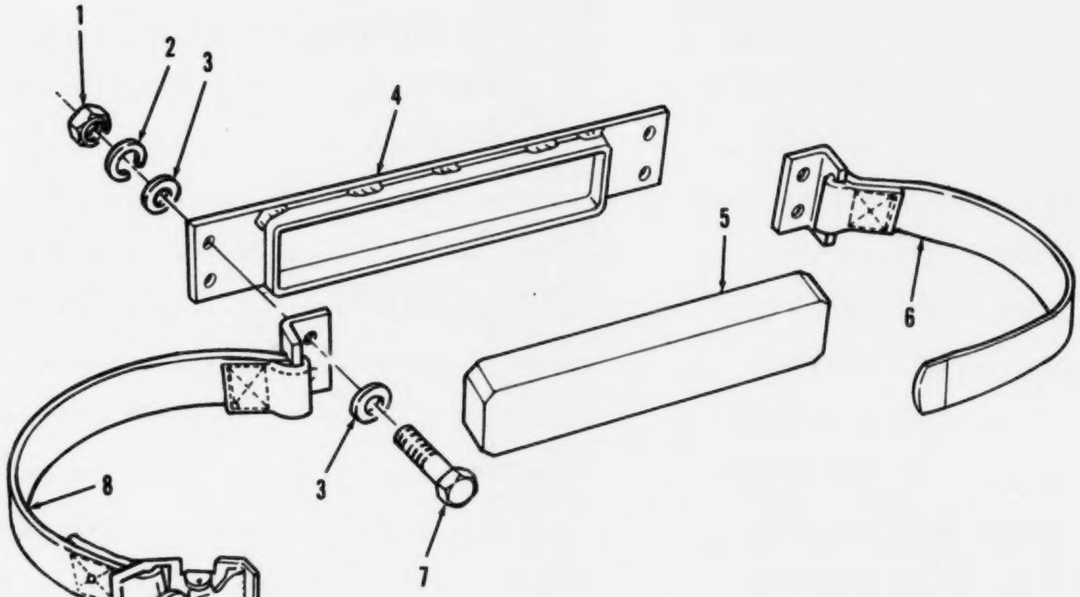

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FIGURE 37. LEVELING JACK TIE-DOWN STRAPS, PAD, AND ASSOCIATED PARTS, M514.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1507 LANDING GEAR, LEVELING JACKS	
				FIG. 37 LEVELING JACK TIE-DOWN STRAPS, PAD, AND ASSOCIATED PARTS, M514	
1	PAOZZ	96906	MS51967-2	NUT,PLAIN,HEXAGON.................... UOC:914	4
2	PAOZZ	96906	MS35338-44	WASHER,LOCK.......................... UOC:914	4
3	PAOZZ	96906	MS27183-10	WASHER,FLAT.......................... UOC:914	8
4	XDOZZ	19207	10906417	PAD ASSEMBLY,LEFT LEVELING JACK... UOC:914	1
4	PAOZZ	19207	10906418	PAD ASSEMBLY,RIGHT LEVELING JACK... UOC:914	1
5	XDOZZ	19207	10860093	.RUBBER STRIP........................ UOC:914	1
6	PAOZZ	19207	10860146	STRAP,WEBBING........................ UOC:914	1
7	PAOZZ	96906	MS90725-9	SCREW,CAP,HEXAGON.................... UOC:914	4
8	PAOZZ	19207	10860145	STRAP,WEBBING........................ UOC:914	1

END OF FIGURE

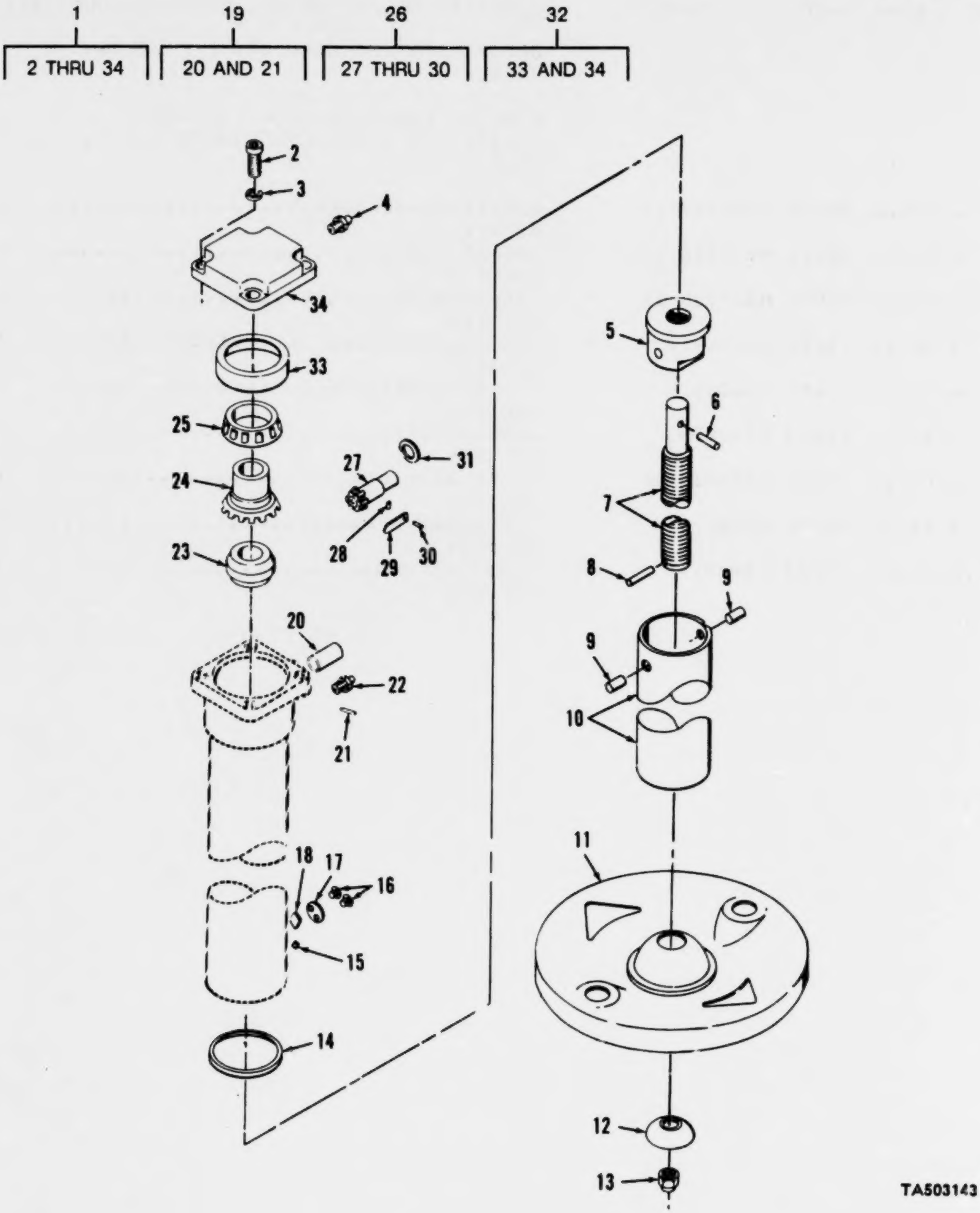
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FIGURE 38. LEVELING JACK ASSEMBLY, M390C.

GROUP: 1507 LANDING GEAR, LEVELING JACKS

FIG. 38 LEVELING JACK ASSEMBLY, M390C

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
1	PAOFF	19207	8387680	JACK,LEVELING-SUPPO UOC:175	5
2	PAFZZ	96906	MS16997-142	.SCREW, CAP, SOCKET UOC:175	4
3	PAFZZ	88044	AN935-816	.WASHER,LOCK UOC:175	4
4	PAOZZ	96906	MS15001-1	.FITTING,LUBRICATION UOC:175	1
5	PFFZZ	19207	10885450	.NUT,SCREW,LEVELING UOC:175	1
6	PAFZZ	21450	142896	.PIN,GROOVED,HEADLES UOC:175	1
7	PAFZZ	19207	10885459	.LEVELING JACK,SCREW UOC:175	1
8	PAFZZ	96906	MS35671-56	.PIN,GROOVED,HEADLES UOC:175	1
9	PAFZZ	96906	MS35677-51	.PIN,GROOVED,HEADLES UOC:175	1
10	XDFZZ	19207	10885454	.TUBE, INNER UOC:175	1
11	PAFZZ	19207	8005089	.SHOE,JACK SUPPORT UOC:175	1
12	PAFZZ	18876	8020015	.RETAINER,BELL,JACK UOC:175	1
13	PAFZZ	96906	MS51922-53	.NUT,SELF-LOCKING,HE UOC:175	1
14	PAFZZ	19207	8683884	.SEAL,NONMETALLIC ST UOC:175	1
15	PFFZZ	19207	10885446	.SEAL,KEY,JACK HOUSI UOC:175	1
16	PAFZZ	96906	MS35206-226	.SCREW,MACHINE UOC:175	2
17	PAFZZ	19207	10885448	.COVER,ACCESS UOC:175	1
18	PAFZZ	19207	10885443	.KEY,MACHINE UOC:175	1
19	PAFZZ	19207	10885476	.HOUSING,MECHANICAL UOC:175	1
20	PAFZZ	19207	8683896	..BEARING,SLEEVE EARLY MODEL UOC:175	1
21	XDFZZ	24617	187851	..PIN, GROOVED LATE MODEL UOC:175	1
22	PAOZZ	96906	MS15003-1	.FITTING,LUBRICATION UOC:175	1
23	XDFZZ	19207	7328405	.COLLAR,THRUST UOC:175	1

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
24	PAFZZ	19207	7520774	.GEAR,BEVEL UOC:175	1
25	PAFZZ	01957	266697	.CONE AND ROLLERS,TA UOC:175	1
26	PAFZZ	18876	7089984	.GEARSHAFT,ASSEMBLY UOC:175	1
27	XAFZZ	19207	7520829	..PINION UOC:175	1
28	XDFZZ	19207	7696416	..SPRING UOC:175	1
29	XAFZZ	19207	7520777	..LATCH UOC:175	1
30	PAFZZ	19205	7793470	..PIN,SPRING UOC:175	1
31	PAFZZ	19207	7328402	.BEARING,WASHER,THRU UOC:175	1
32	PAFZZ	19207	10891299	.COVER,ACCESS UOC:175	1
33	XAFZZ	21450	706915	..CUP UOC:175	1
34	XAFZZ	19207	7328401	..COVER UOC:175	1

END OF FIGURE

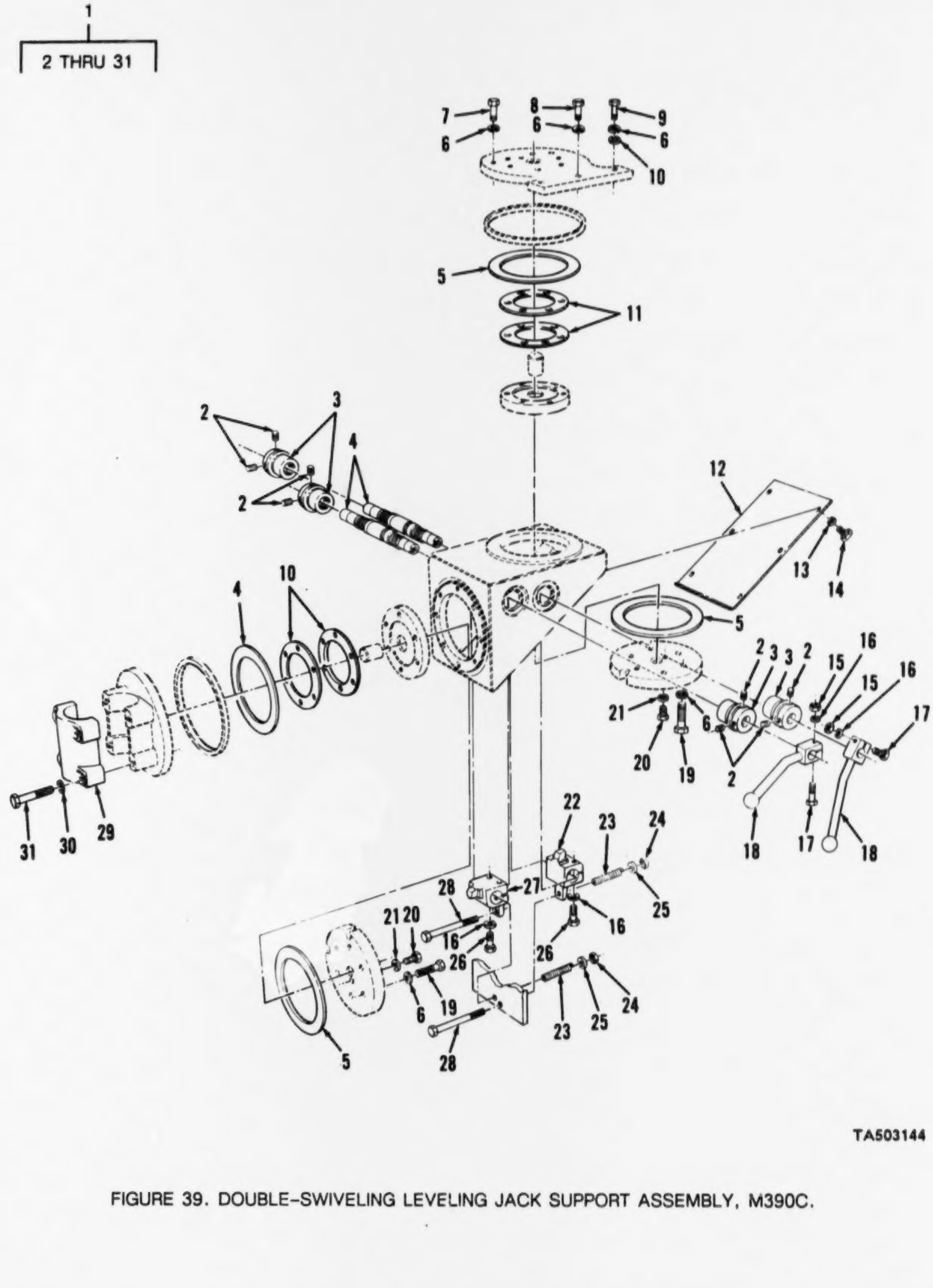
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FIGURE 39. DOUBLE-SWIVELING LEVELING JACK SUPPORT ASSEMBLY, M390C.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1507 LANDING GEAR, LEVELING JACKS	
				FIG. 39 DOUBLE-SWIVELING LEVELING JACK SUPPORT ASSEMBLY, M390C	
1	PAFFF	18876	10885474	JACK,LEVELING,DOUBLE SWIVELING.... UOC:175	1
2	PAFZZ	96906	MS51963-104	.SETSCREW........................... UOC:175	4
3	PAFZZ	19207	10885442	.NUT,ADJUSING,LEVELI................ UOC:175	2
4	PAFZZ	19207	10885452	.SHAFT,SHOULDERED................... UOC:175	2
5	PAFZZ	19207	10885445	.BEARING,WASHER,THRU................ UOC:175	4
6	PAFZZ	96906	MS25338-50	.WASHER,LOCK........................ UOC:175	15
6	PAFZZ	96906	MS35340-50	.WASHER,LOCK........................ UOC:175	6
7	PAFZZ	96906	MS90725-162	.SCREW,CAP,HEXAGON H................ UOC:175	1
7	PAFZZ	96906	MS90728-160	.SCREW,CAP,HEXAGON H................ UOC:175	12
8	XDFZZ	96906	MS90725-158	.SCREW, CAP, HEXAGON................ UOC:175	1
9	PAFZZ	96906	MS90728-164	.SCREW,CAP,HEXAGON H................ UOC:175	2
10	XDFZZ	19207	10891278	.WASHER, BEVEL...................... UOC:175	2
11	PAFZZ	19207	5703039	.SHIM SET........................... UOC:175	1
12	XBFZZ	19207	10885467	.COVER, HOUSING,.................... UOC:175	1
13	PAFZZ	19207	7410218	.WASHER,LOCK........................ UOC:175	6
14	PAFZZ	96906	MS90725-31	.BOLT,MACHINE....................... UOC:175	6
15	PAFZZ	96906	MS51967-8	.NUT,PLAIN,HEXAGON.................. UOC:175	2
16	PAFZZ	96906	MS35338-46	.WASHER,LOCK........................ UOC:175	6
17	PAFZZ	96906	MS90728-66	.SCREW,CAP,HEXAGON H................ UOC:175	2
18	PAFZZ	19207	10885453	.LEVER,MANUAL CONTRO................ UOC:175	2
19	PAFZZ	96906	MS90728-165	.SCREW,CAP,HEXAGON H................ UOC:175	12
20	PAFZZ	96906	MS90728-29	.BOLT,MACHINE....................... UOC:175	2
21	PAFZZ	96906	MS27183-12	.WASHER,FLAT........................ UOC:175	2

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
22	PAFZZ	19207	10885466	.LEVER,REMOTE CONTRO................ UOC:175	1
23	PFFZZ	19207	8683898	.SPRING,HELICAL,COMP................ UOC:175,914	2
24	PAFZZ	00000	7984623	.NUT,SELF-LOCKING,HE................ UOC:175	2
25	PAFZZ	96906	MS27183-14	.WASHER,FLAT........................ UOC:175	2
26	PAFZZ	96906	MS90725-66	.SCREW,CAP,HEXAGON H................ UOC:175	4
27	PAFZZ	19207	10885462	.LEVER,REMOTE CONTRO................ UOC:175,914	1
28	XBFZZ	19207	10891258	.SCREW, CAP, HEXAGON................ UOC:175	2
29	PAFZZ	19207	8683881	.CAP,PILLOW BLOCK................... UOC:175	1
30	PAFZZ	88044	AN935-816	.WASHER,LOCK........................ UOC:175	4
31	PAFZZ	96906	MS90728-118	.SCREW,CAP,HEXAGON H................ UOC:175	4

END OF FIGURE

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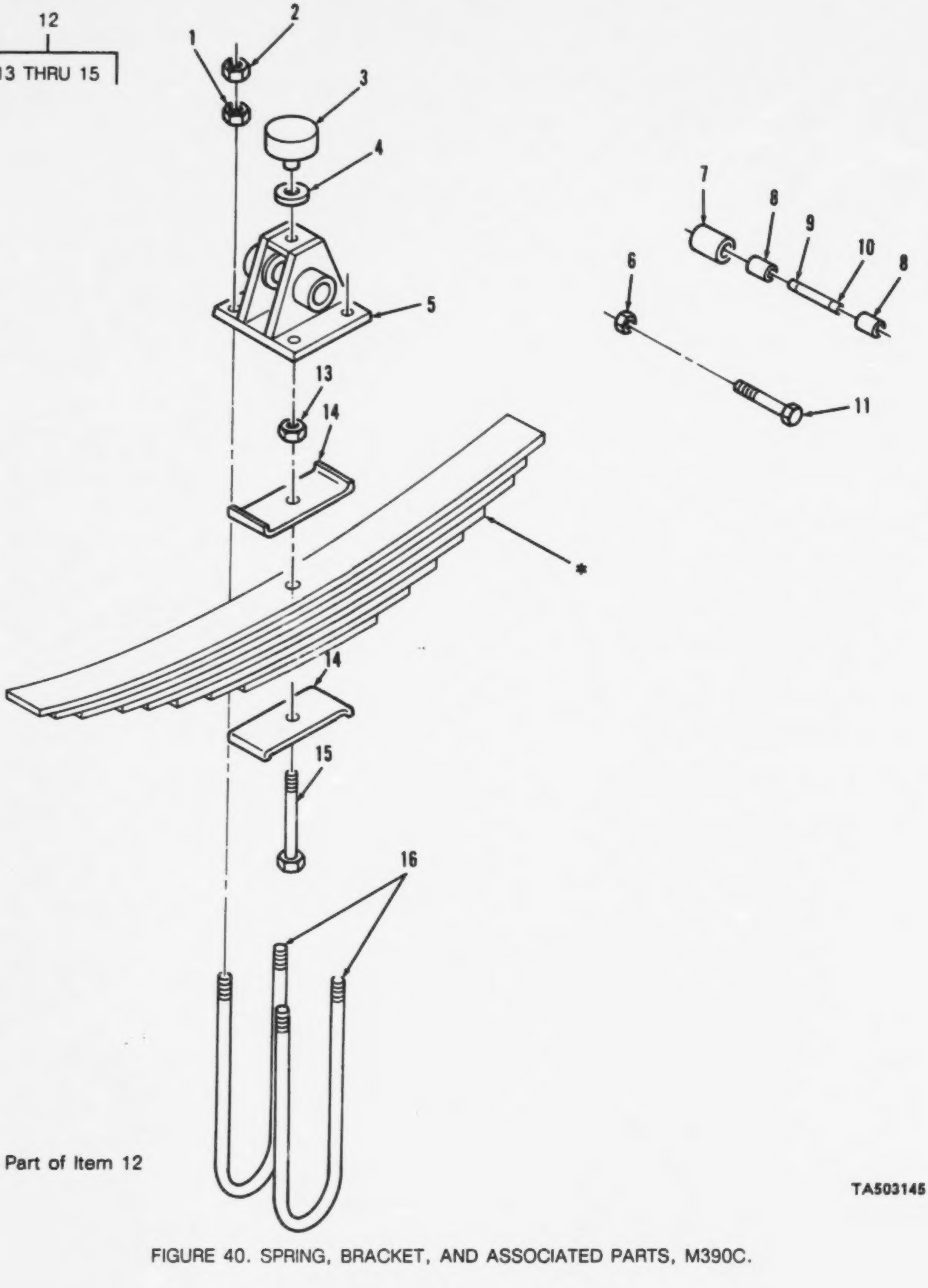
13 THRU 15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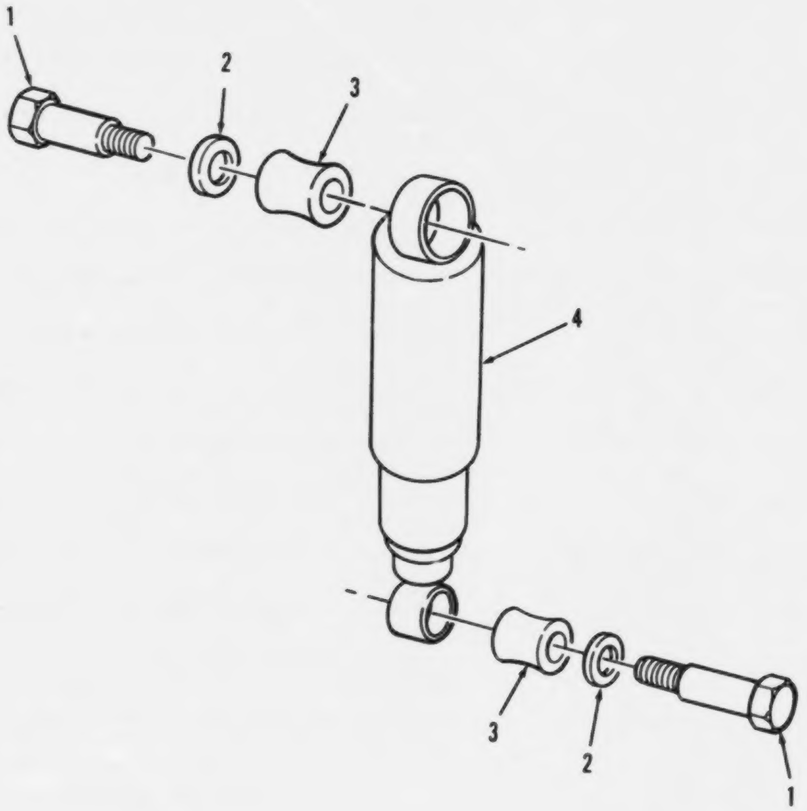
** Part of Item 12

TA503145

FIGURE 40. SPRING, BRACKET, AND ASSOCIATED PARTS, M390C.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 16 SPRINGS AND SHOCK ABSORBERS	
				GROUP: 1601 SPRINGS	
				FIG. 40 SPRING, BRACKET, AND ASSOCIATED PARTS, M390C	
1	PAOZZ	96906	MS51968-23	NUT,PLAIN,HEXAGON UOC:175	4
2	PAOZZ	96906	MS35691-61	NUT,PLAIN,HEXAGON UOC:175	4
3	PAOZZ	19207	10914500	BUMPER,NONMETALLIC UOC:175	1
4	PAOZZ	96906	MS35333-44	WASHER,LOCK UOC:175	1
5	PFOZZ	19207	8363961	BRACKET,BUMPER UOC:175	1
6	PAOZZ	96906	MS51922-53	NUT,SELF-LOCKING,HE UOC:175	2
7	PAOZZ	19207	8363971	BUSHING,SLEEVE UOC:175	2
8	PAOZZ	19207	8363972	BEARING,SLEEVE UOC:175	2
9	PAOZZ	19207	8363973	PIN,ROLLER,CHASSIS UOC:175	2
10	PAOZZ	96906	MS51973-74	SETSCREW UOC:175	4
11	PAOZZ	08288	MSS5305-43	SCREW,CAP,HEXAGON H UOC:175	2
12	PAOZZ	19207	8363955	SPRING ASSEMBLY,LEA UOC:175	2
13	PAOZZ	96906	MS51968-14	.NUT,PLAIN,HEXAGON UOC:175	1
14	PAOZZ	19207	8363966	.PLATE,SPRING,LEAF UOC:175	2
15	PAOZZ	19207	8363968	.SCREW,MACHINE UOC:175	1
16	PAOZZ	19207	8389628	BOLT,U UOC:175	2

END OF FIGURE

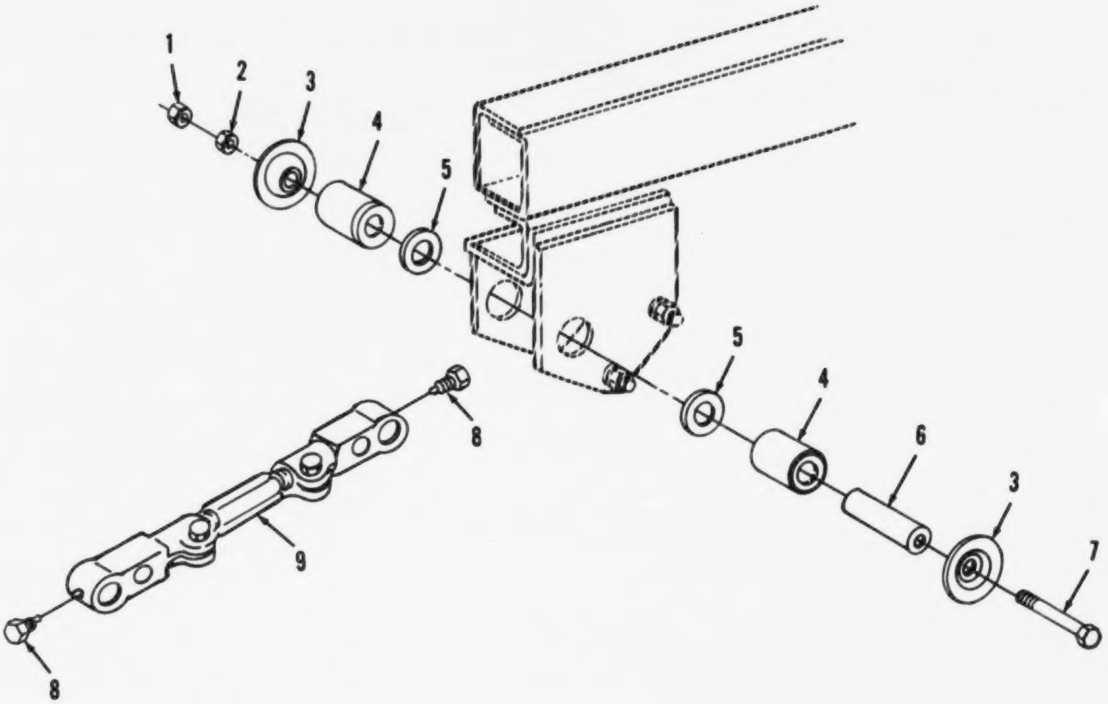


TA503146

FIGURE 41. SHOCK ABSORBER ASSEMBLY AND ASSOCIATED PARTS, M514.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1601 SPRINGS	
				FIG. 41 SHOCK ABSORBER ASSEMBLY AND ASSOCIATED PARTS, M514	
1	PAOZZ	19207	10860124	BOLT,SHOULDER........................ UOC:914	2
2	PAOZZ	19207	10860123	WASHER,FLAT.......................... UOC:914	2
3	PAOZZ	19207	7341462	BUSHING,RUBBER....................... UOC:914	2
4	PAOZZ	19207	7092048	SHOCK ABSORBER....................... UOC:914	2

END OF FIGURE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TA503147

FIGURE 42. RADIUS ROD ASSEMBLY AND ASSOCIATED PARTS, M390C.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1605 RADIUS RODS	
				FIG. 42 RADIUS ROD ASSEMBLY AND ASSOCIATED PARTS, M390C	
1	PAOZZ	96906	MS35691-53	NUT,PLAIN,HEXAGON.................... UOC:175	2
2	PAOZZ	96906	MS51968-20	NUT,PLAIN,HEXAGON.................... UOC:175	2
3	PAOZZ	19207	7349028	WASHER,SHOULDERED.................... UOC:175	4
4	PAOZZ	19207	7974916	BUSHING,RUBBER....................... UOC:175	4
5	PAOZZ	19207	7349029	WASHER,FLAT.......................... UOC:175	2
6	PAOZZ	19207	8363969	BEARING,SLEEVE....................... UOC:175	1
7	PAOZZ	96906	MS90726-178	SCREW,CAP,HEXAGON H.................. UOC:175	1
8	PAOZZ	19207	8363970	SETSCREW............................. UOC:175	2
9	PAOZZ	19207	7707070	ROD,ALIGNING,VEHICU.................. UOC:175	1

END OF FIGURE

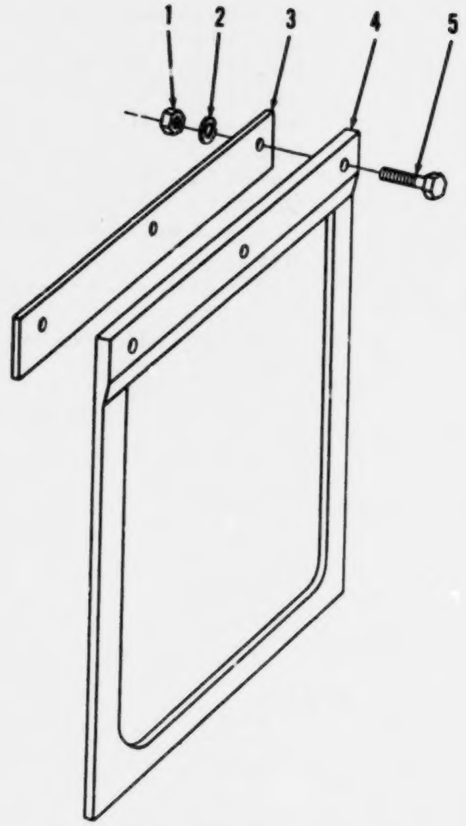

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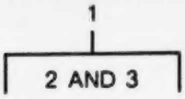
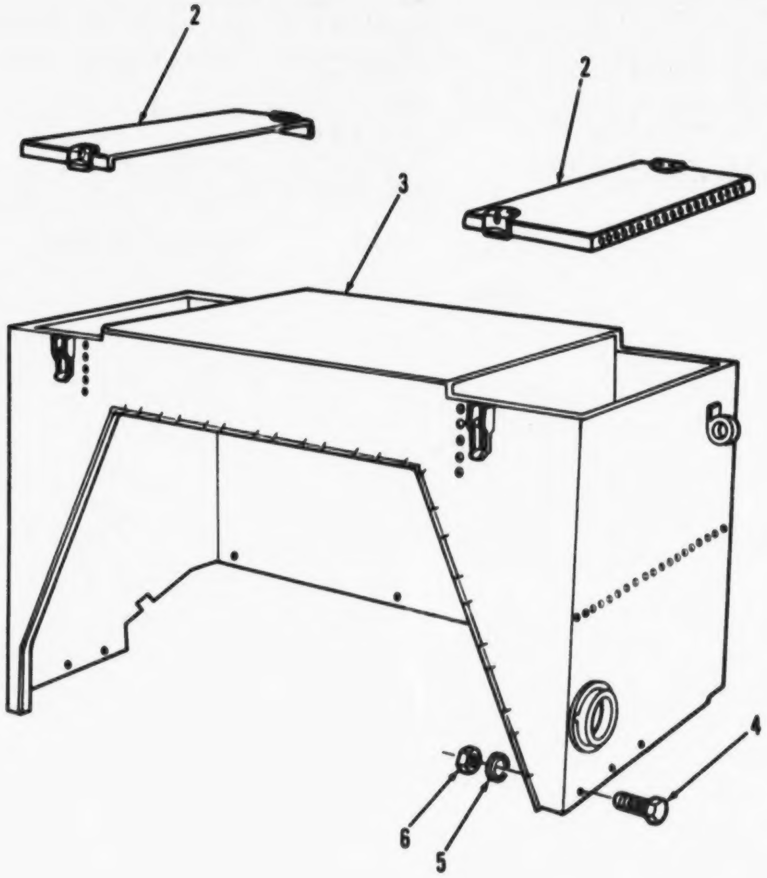
FIGURE 43. WHEEL SPLASHGUARDS AND ASSOCIATED PARTS, M390C.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 18 BODY, CAB, AND HOOD	
				GROUP: 1801 SPLASH GUARDS	
				FIG. 43 WHEEL SPLASHGUARDS AND ASSOCIATED PARTS, M390C	
1	PAOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON.................... UOC:175	6
2	PAOZZ	96906	MS35338-46	WASHER,LOCK......................... UOC:175	6
3	XBOZZ	19207	10891219	BAR................................. UOC:175	6
4	PAOZZ	19207	10891260	GUARD,SPLASH,VEHICU................. UOC:175	2
5	PAOZZ	96906	MS90728-63	SCREW,CAP,HEXAGON H................. UOC:175	6

END OF FIGURE





TA503149

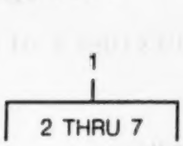
FIGURE 44. RIGHT FENDER AND TOOLBOX ASSEMBLY, M514.

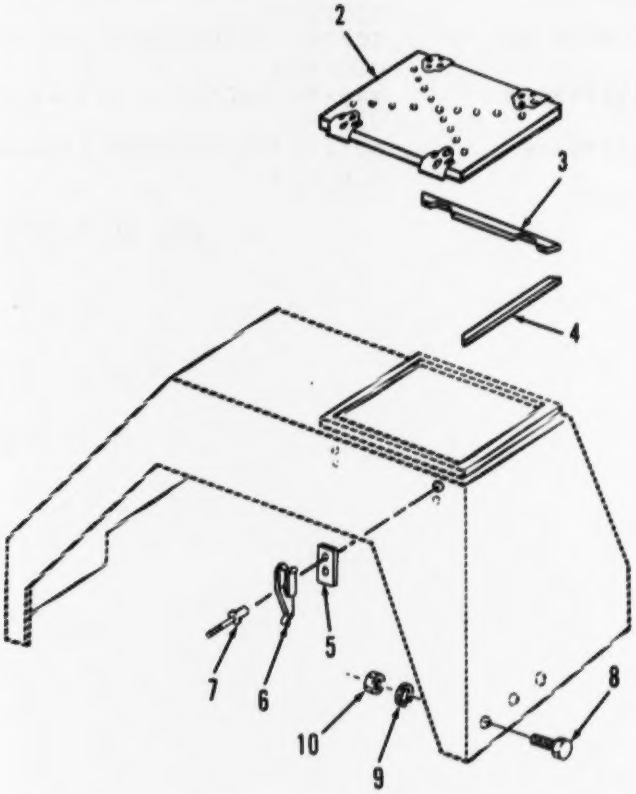
GROUP: 1802 FENDERS

FIG. 44 RIGHT FENDER AND TOOLBOX ASSEMBLY, M514

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
1	XBOOO	19207	10860099	FENDER AND TOOL BOX.................... UOC:914	1
2	PAOZZ	19207	10933266	.COVER,ACCESS....................... UOC:914	2
3	XBOZZ	19207	10860001	.FENDER.............................. UOC:914	1
4	PAOZZ	96906	MS90725-58	SCREW,CAP,HEXAGON.................... UOC:914	6
5	PAOZZ	96906	MS35338-46	WASHER,LOCK......................... UOC:914	6
6	PAOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON.................... UOC:914	6

END OF FIGURE

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TA503150

FIGURE 45. LEFT FENDER AND TOOLBOX ASSEMBLY, M514.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 1802 FENDERS	
				FIG. 45 LEFT FENDER AND TOOLBOX ASSEMBLY, M514	
1	XBOZZ	19207	8759629	FENDER AND TOOL BOX.................... UOC:914	1
2	XBOZZ	19207	8759630	.LID,ASSEMBLY....................... UOC:914	1
3	XDOZZ	19207	8759653	.GASKET............................. UOC:914	2
4	XDOZZ	19207	9759654	.SEAL,NONMETALIC.................... UOC:914	2
5	XBOZZ	19207	10860050	.SPACER............................. UOC:914	2
6	PAOZZ	19207	7064602	.CATCH,CLAMPING..................... UOC:914	2
7	XDOZZ	19207	588463	.RIVET.............................. UOC:914	4
8	PAOZZ	96906	MS90725-58	SCREW,CAP,HEXAGON................... UOC:914	6
9	PAOZZ	96906	MS38338-46	WASHER,LOCK......................... UOC:914	6
10	PAOZZ	96906	MS51967-8	NUT,PLAIN,HEXAGON................... UOC:914	6

END OF FIGURE

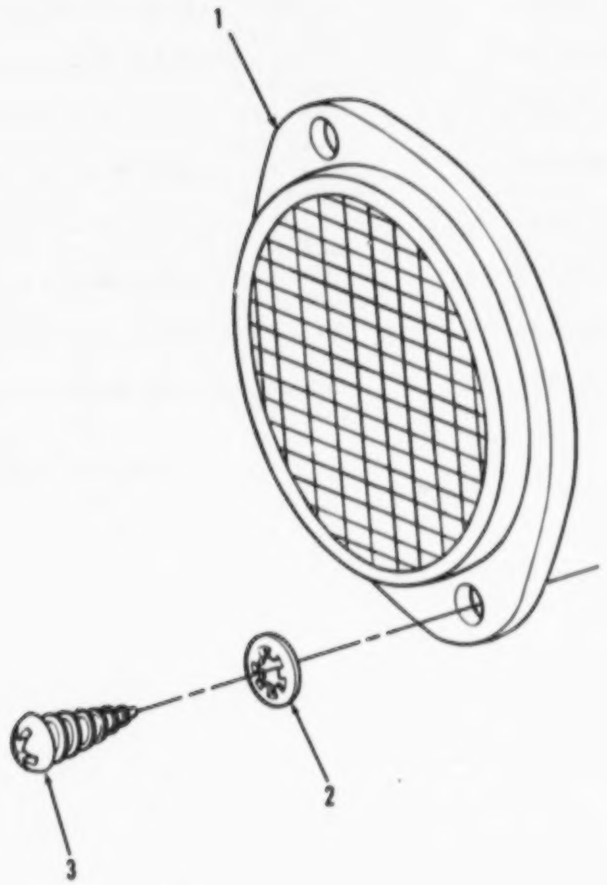

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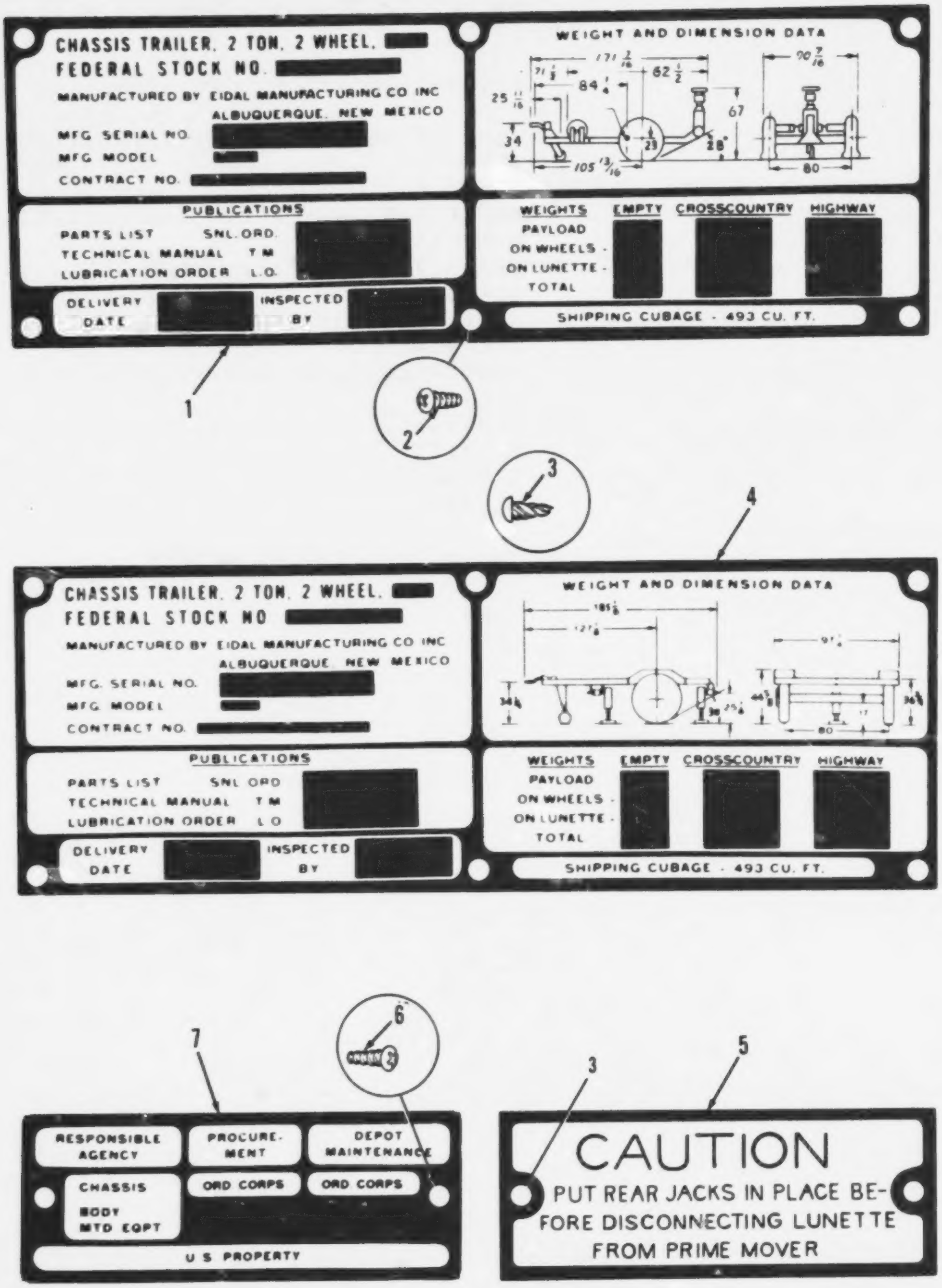
FIGURE 46. REFLECTOR AND ASSOCIATED PARTS.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 22 BODY AND CHASSIS ACCESSORY ITEMS	
				GROUP: 2202 ACCESSORY ITEMS	
				FIG. 46 REFLECTOR AND ASSOCIATED PARTS	
1	PAOZZ	19207	7348221	REFLECTOR,INDICATIN AMBER........... UOC:175	4
1	PAOZZ	19207	6161059A	REFLECTOR,INDICATIN RED............. UOC:175	4
1	PAOZZ	19207	6161059A	REFLECTOR,INDICATIN RED............. UOC:914	2
2	PAOZZ	96906	MS35333-40	WASHER,LOCK......................... UOC:175	16
3	PAOZZ	96906	MS35206-277	SCREW,MACHINE....................... UOC:175	16
3	PAOZZ	21450	171764	SCREW,TAPPING....................... UOC:914	4

END OF FIGURE


CHASSIS TRAILER, 2 TON, 2 WHEEL,
FEDERAL STOCK NO.
MANUFACTURED BY EIDAL MANUFACTURING CO INC
ALBUQUERQUE, NEW MEXICO
MFG SERIAL NO.
MFG MODEL
CONTRACT NO.
PUBLICATIONS
PARTS LIST SNL ORD.
TECHNICAL MANUAL T M
LUBRICATION ORDER L.O.
DELIVERY DATE
INSPECTED BY
WEIGHT AND DIMENSION DATA
WEIGHTS
EMPTY
CROSSCOUNTRY
HIGHWAY
PAYLOAD
ON WHEELS
ON LUNETTE
TOTAL
SHIPPING CUBAGE - 493 CU. FT.
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PROCURE-MENT
DEPOT MAINTENANCE
CHASSIS
BODY MTD EQPT
ORD CORPS
ORD CORPS
U S PROPERTY
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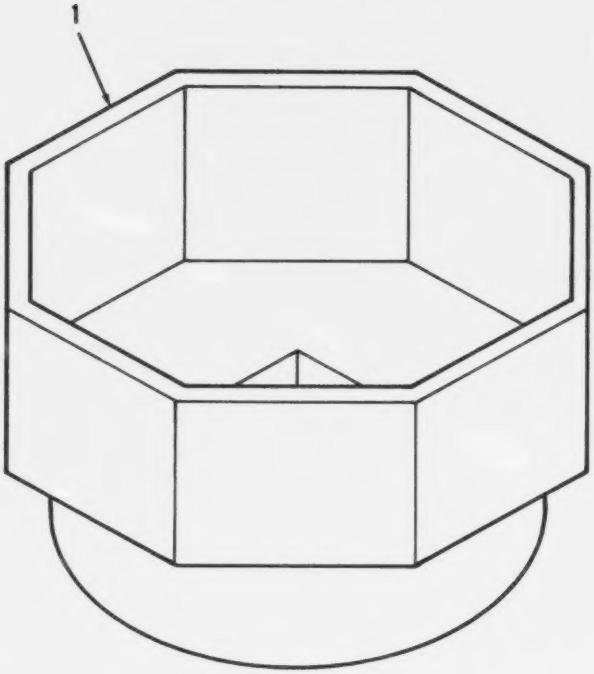
CAUTION
PUT REAR JACKS IN PLACE BEFORE DISCONNECTING LUNETTE FROM PRIME MOVER

TA503152

FIGURE 47. DATA PLATES.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 2210 DATA PLATES AND INSTRUCTION HOLDERS	
				FIG. 47 DATA PLATES	
1	PAOZZ	19207	8759938	PLATE,IDENTIFICATIO.................... UOC:914	1
1	PAOZZ	19207	10860102	PLATE,IDENTIFICATIO.................... UOC:914	1
2	PAOZZ	21450	171764	SCREW, TAPPING......................... UOC:175	2
2	PAOZZ	21450	171764	SCREW,TAPPING.......................... UOC:914	4
3	PAOZZ	96906	MS21318-58	SCREW,DRIVE............................	16
4	PAOZZ	19207	10891268	PLATE,IDENTIFICATIO N.............. UOC:914	1
5	PAOZZ	19207	10891266	PLATE,INSTRUCTION...................... UOC:175,914	1
6	XDOZZ	64959	171732	SCREW,TAPPING,THREA.................... UOC:914	1
7	PAOZZ	19207	7979373	PLATE,IDENTIFICATIO.................... UOC:175	1
7	PAOZZ	19207	10860103	PLATE,IDENTIFICATIO.................... UOC:914	1

END OF FIGURE



TA503153

FIGURE 48. SPECIAL TOOLS.

(1) ITEM NO	(2) SMR CODE	(3) CAGEC	(4) PART NUMBER	(5) DESCRIPTION AND USABLE ON CODES(UOC)	(6) QTY
				GROUP: 26 TOOLS AND TEST EQUIPMENT	
				GROUP: 2604 SPECIAL TOOLS	
				FIG. 48 SPECIAL TOOLS	
1	PEOFF	19207	7059814	WRENCH.............................. UOC:914	1
1	PEOFF	19207	7950946	WRENCH.............................. UOC:175	1

END OF FIGURE

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM
5315-00-005-0442	33	25
5315-00-010-3496	10	2
5320-00-011-9951	12	22
5315-00-012-0123	28	4
5315-00-013-7228	23	18
5307-00-017-9125	15	10
4730-00-018-9566	22	17
6240-00-019-0877	1	5
	2	5
	3	7
6240-00-019-3093	3	4
2590-00-022-6727	33	19
2530-00-026-0200	21	1
2530-00-026-0265	26	1
4730-00-036-4421	15	3
5340-00-040-2364	4	15
5340-00-040-2365	5	8
5310-00-044-3339	23	16
6240-00-044-6914	2	4
	3	5
5310-00-045-3296	9	22
	14	13
	19	10
5310-00-045-3295	5	3
5310-00-045-5001	39	6
5306-00-050-0348	29	3
5305-00-050-1077	31	6
4730-00-050-4203	38	4
4730-00-050-4208	31	30
	32	32
	34	6
	38	22
5940-00-050-6209	7	6
5305-00-051-0827	33	22
5305-00-052-6922	4	3
5306-00-053-0512	40	16
5340-00-054-1416	23	14
5305-00-054-9288	28	12
5315-00-058-6011	31	31
2640-00-060-3550	27	6
5310-00-062-4954	23	1
5315-00-062-5417	32	30
5315-00-067-5093	38	8
5310-00-067-6356	33	41
5305-00-068-0500	20	10
5305-00-068-0502	19	1
5305-00-068-0515	12	18
5315-00-068-2498	38	9
4730-00-069-1186	19	7
5305-00-069-5572	24	1

STOCK NUMBER	FIG.	ITEM
5305-00-071-2070	23	20
5305-00-071-2074	39	31
5305-00-071-2242	37	7
5305-00-071-2506	23	33
3040-00-074-2357	12	10
4030-00-075-7212	29	9
5306-00-075-7215	29	10
4710-00-075-7216	20	7
5340-00-075-9142	40	5
5340-00-075-9145	44	2
2540-00-075-9146	43	4
5340-00-075-9147	40	3
3130-00-076-0043	39	29
5340-00-076-0044	39	18
3040-00-076-0046	39	27
3040-00-076-0048	39	22
3040-00-076-0049	38	19
5340-00-076-0050	38	32
2590-00-076-1937	31	16
2590-00-076-1938	33	26
2590-00-076-1939	34	14
2590-00-076-1942	33	20
5340-00-076-1943	38	17
2590-00-076-1944	33	3
2590-00-076-1945	37	4
2590-00-076-1946	35	1
2590-00-076-1947	35	1
2590-00-076-1948	33	9
2590-00-076-1949	33	9
5315-00-076-3505	31	11
5310-00-080-2289	32	3
5310-00-080-6004	25	2
	29	12
	33	36
	35	6
	36	5
	39	25
5310-00-081-4219	39	21
5315-00-081-7042	23	35
5310-00-087-4652	10	12
5330-00-090-2128	22	2
2530-00-092-9641	11	20
3110-00-100-0293	24	9
3110-00-100-0567	24	12
3110-00-100-0633	32	24
3110-00-100-3563	24	15
3110-00-100-9812	32	25
5305-00-105-6871	32	31
5305-00-115-9526	2	8
	13	2

CROSS-REFERENCE INDEXES

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
2590-00-125-3795	33	46	5306-00-225-8496	39	14
2590-00-133-9728	32	34	5306-00-225-8516	34	29
2530-00-133-9831	13	12	5306-00-225-9084	1	7
2530-00-135-9031	11	1	5306-00-225-9088	21	14
3110-00-142-4351	38	25	5306-00-226-4822	11	5
3110-00-142-4358	24	8		39	20
3110-00-143-7538	25	9	5120-00-229-5711	33	27
3110-00-143-7586	25	12	4710-00-231-7432	20	8
3040-00-150-7127	12	10	5310-00-241-6661	32	10
6145-00-152-6499	6	3	5305-00-253-5632	47	3
5330-00-154-8353	24	16	5365-00-260-4882	24	17
2640-00-158-5617	27	2	4730-00-261-4224	14	10
2530-00-159-8755	13	5	2610-00-262-8677	27	3
2530-00-159-8756	13	5	5340-00-264-7716	4	7
5310-00-167-0721	13	9	5305-00-269-2804	11	27
5365-00-168-2762	33	6	5305-00-269-2807	12	24
5340-00-169-5727	9	7		28	14
4730-00-172-0031	28	10	5305-00-269-2818	35	9
4730-00-172-0034	32	22	5305-00-269-3209	44	4
5306-00-174-4246	32	20		45	8
5340-00-177-3711	20	9	5305-00-269-3215	33	34
5340-00-177-3957	23	7	5305-00-269-3216	23	29
2540-00-177-8192	10	19		33	30
2530-00-177-8207	11	1		39	26
2590-00-177-8306	32	19	5305-00-269-3217	10	18
5340-00-178-1441	21	10	5305-00-269-3225	9	10
6220-00-179-4324	3	2	5305-00-269-3240	32	11
5310-00-185-6461	24	5	5310-00-269-4040	29	4
5305-00-187-9934	38	2	5310-00-270-8832	32	1
2530-00-192-8928	21	7	5310-00-270-8834	32	2
5310-00-194-1483	40	4	2530-00-274-4510	17	2
9905-00-202-3639	46	1	5365-00-274-4544	14	5
4710-00-203-3171	19	12		15	2
2530-00-204-4800	18	6		16	2
9905-00-205-2795	46	1	5310-00-274-8715	25	20
	46	1	5340-00-275-6042	5	2
5310-00-205-8249	24	6	5340-00-276-5849	34	4
5306-00-206-1560	25	6	5325-00-276-5954	4	12
5306-00-206-2865	36	6	5325-00-276-6089	4	13
5310-00-209-0698	30	3	4730-00-277-5553	19	14
5310-00-209-0786	4	2	4730-00-278-6318	20	4
	14	2	9905-00-282-7489	47	7
5310-00-209-0965	24	2	5340-00-282-7515	9	21
5305-00-225-3839	33	5	5340-00-282-7519	15	6
5310-00-225-6408	38	13	5340-00-282-7793	19	9
	40	6	5330-00-285-5123	22	15
5306-00-225-8496	16	5	5325-00-285-8363	4	9
	19	4	5340-00-286-2494	14	1
	20	11	4730-00-287-1707	14	9
	32	14	2530-00-287-8252	16	8

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STOCK NUMBER	FIG.	ITEM
4730-00-289-4937	18	1
2530-00-293-5139	21	4
5330-00-297-7106	2	3
5315-00-298-1481	31	29
4730-00-301-7470	19	15
5310-00-314-0764	12	11
5310-00-314-0765	12	12
4720-00-318-1016	22	4
2530-00-318-1116	17	1
5310-00-322-7260	12	13
5315-00-322-7261	12	14
3040-00-330-3262	9	8
	10	13
5365-00-331-2340	32	33
5306-00-335-4768	25	5
5310-00-341-2387	38	12
5365-00-341-2388	32	27
5975-00-345-8055	5	9
5365-00-350-0155	42	4
5310-00-359-0458	14	7
5306-00-383-4957	24	18
	25	14
5310-00-407-9566	1	8
	10	10
	11	6
	16	6
	19	5
	20	12
	21	6
	32	13
	39	13
2530-00-408-9177	10	9
2590-00-411-2063	6	1
4730-00-419-9425	14	6
	16	3
5310-00-424-1452	42	3
5310-00-424-1456	42	5
5310-00-431-7435	32	12
4010-00-435-7709	31	32
2530-00-443-0033	11	23
5330-00-462-0907	3	3
4730-00-463-1588	15	9
5340-00-495-7212	32	15
4710-00-511-1692	18	5
5310-00-514-6674	34	9
3110-00-516-5289	34	27
3110-00-516-5850	34	22
5310-00-518-5566	24	19
	25	15
2530-00-522-1157	12	17

STOCK NUMBER	FIG.	ITEM
2530-00-522-4183	12	21
5360-00-535-1924	5	5
5315-00-536-3865	32	9
5310-00-550-1130	46	2
5310-00-550-3503	12	5
5310-00-550-4242	39	24
2640-00-555-2843	27	4
4710-00-566-7133	16	11
4710-00-566-7134	16	13
3020-00-571-6104	38	24
4730-00-580-8457	22	16
2590-00-582-5503	38	11
5310-00-582-5965	5	7
	10	15
	12	8
	15	7
	19	2
	20	2
	22	8
	23	32
	33	8
	37	2
5330-00-584-0265	21	9
5310-00-584-5272	11	25
5310-00-588-0386	31	27
5310-00-590-7893	32	18
5310-00-594-8038	24	19
	25	15
4730-00-595-0083	22	1
5310-00-596-7691	4	5
3110-00-606-1840	31	23
3110-00-606-1841	31	25
2530-00-610-3273	11	11
5340-00-610-3338	11	8
5340-00-611-7883	4	11
5330-00-614-4356	25	18
2530-00-614-4454	25	19
5315-00-616-5505	34	12
5315-00-616-5522	34	26
5315-00-616-5524	34	13
5310-00-627-6128	13	3
4720-00-629-8042	22	6
4710-00-630-9928	16	13
2530-00-633-7972	11	4
5310-00-637-9541	2	7
	9	6
	11	28
	21	3
	23	12
	28	15

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STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5310-00-637-9541	33	29	5315-00-679-4535	31	5
	35	7	2590-00-679-4536	33	21
	39	16	2530-00-679-4538	31	10
	43	2	9905-00-679-4539	47	7
	44	5	2530-00-679-4540	23	9
5310-00-641-9939	12	7	2530-00-679-4542	23	28
5340-00-655-7761	4	4	2530-00-679-4543	24	10
	19	3	2510-00-679-4544	23	9
5305-00-655-9404	40	15	3120-00-679-4549	23	23
5306-00-655-9522	9	3	5310-00-679-4559	34	23
3120-00-661-9119	32	37	5340-00-679-4570	23	22
6220-00-669-5623	2	1	5340-00-679-4571	23	17
2590-00-670-1997	32	6	5306-00-679-4573	41	1
2530-00-677-0202	25	11	5310-00-679-4574	41	2
5330-00-678-9047	1	4	5315-00-679-4575	23	19
2530-00-679-3154	32	23	5315-00-679-4576	9	19
2530-00-679-3156	32	36	3020-00-679-4814	34	17
3120-00-679-3158	40	8	5305-00-688-2111	43	5
3120-00-679-3159	40	7	1440-00-689-6160	18	9
5315-00-679-3160	40	9	5315-00-690-0544	38	30
4710-00-679-3162	15	1	5340-00-692-9212	45	6
4710-00-679-3163	15	12	2530-00-693-0736	32	5
5340-00-679-3185	4	1	5310-00-693-0738	32	8
	5	12	5340-00-693-0739	10	6
5305-00-679-3189	42	8	2530-00-693-1007	12	19
5310-00-679-3606	22	13	2530-00-693-1010	25	10
5315-00-679-3675	32	39	5360-00-699-8489	32	7
3040-00-679-3676	32	29	5360-00-699-9018	12	16
2590-00-679-3678	10	8	5360-00-700-4429	21	8
4720-00-679-3679	15	14	6150-00-703-4138	6	1
2510-00-679-3681	40	12	2590-00-703-4145	7	1
5340-00-679-3682	40	14	5940-00-705-6709	7	6
2530-00-679-3683	8	1	5360-00-706-9054	22	14
5330-00-679-4485	34	21	5120-00-711-8418	48	1
4710-00-679-4486	14	8	5306-00-717-4408	9	11
3020-00-679-4488	34	15	5305-00-719-5219	32	17
2530-00-679-4506	9	13	5305-00-719-5342	33	1
2590-00-679-4507	33	13	5365-00-721-6876	33	47
2530-00-679-4508	31	21	5305-00-724-5839	33	53
3020-00-679-4510	34	24	5305-00-724-5885	39	2
4720-00-679-4511	14	11	5305-00-724-5910	39	7
2530-00-679-4514	23	31	5305-00-724-7219	39	7
2530-00-679-4515	9	18	5305-00-724-7222	39	9
3020-00-679-4518	34	3	5305-00-724-7223	39	19
2540-00-679-4519	41	4	5305-00-726-2572	42	7
5315-00-679-4521	33	40	5305-00-728-6291	40	10
5340-00-679-4523	24	3	4730-00-729-6437	15	5
5330-00-679-4524	33	10		16	1
9905-00-679-4530	47	1	5310-00-732-0558	9	5
5330-00-679-4534	24	4		11	29

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STOCK NUMBER	FIG.	ITEM
5310-00-732-0558	21	2
	29	16
	33	35
	39	15
	43	1
	44	6
	45	10
5310-00-732-0559	9	17
	10	4
	35	8
5310-00-732-0560	11	26
	12	26
	40	13
5306-00-733-9239	24	18
	25	14
5310-00-733-9422	9	14
2530-00-737-3260	16	8
5330-00-737-3354	18	8
2530-00-737-7783	21	12
2530-00-738-9061	26	2
2530-00-738-9620	26	3
4010-00-741-1027	29	1
5310-00-741-1028	30	2
2940-00-741-1081	22	12
5310-00-741-1378	12	25
	25	17
5310-00-741-1379	25	16
2530-00-741-1425	25	3
5330-00-741-1429	25	8
5365-00-741-1433	25	7
5306-00-741-1760	12	2
4730-00-741-1903	16	12
4710-00-741-1907	16	11
2530-00-741-2050	16	10
2530-00-741-2065	16	9
2530-00-741-2068	16	7
5310-00-741-2088	15	4
	16	4
5365-00-741-2103	12	6
3020-00-741-2104	13	10
5315-00-741-2106	12	3
5310-00-741-2120	13	11
2530-00-741-3231	25	4
5310-00-741-4684	30	2
2530-00-741-5748	22	11
9905-00-752-4649	6	2
	7	7
6220-00-752-6020	2	2
5315-00-754-0848	9	2
5310-00-761-6882	5	11

STOCK NUMBER	FIG.	ITEM
5310-00-761-6882	22	9
	33	7
	37	1
5310-00-763-8901	40	1
5310-00-763-8905	42	2
5310-00-763-8921	29	8
5305-00-764-0070	1	2
5310-00-768-0318	31	9
2530-00-770-7070	42	9
2530-00-770-9148	31	24
2530-00-770-9149	13	7
2530-00-770-9150	13	6
2530-00-770-9151	13	6
4730-00-773-2163	18	7
2530-00-773-9386	11	21
2530-00-773-9387	11	21
6220-00-775-2384	1	3
2590-00-782-3254	32	35
5305-00-782-9489	39	17
2530-00-791-0110	13	1
2530-00-791-3259	13	1
2530-00-792-6283	12	1
2530-00-794-9763	12	17
5325-00-795-0719	4	10
5120-00-795-0946	48	1
5306-00-796-2621	33	14
2590-00-796-2622	33	11
2530-00-797-9295	22	10
5306-00-797-9296	22	7
2530-00-798-4812	13	4
2530-00-798-4824	13	4
5310-00-800-0695	33	23
2590-00-808-6139	33	33
5340-00-809-1494	5	14
	20	1
4720-00-809-2750	18	3
5310-00-809-3079	28	3
5310-00-809-4058	5	10
	37	3
5310-00-809-5998	23	2
	31	7
	33	51
5310-00-809-8533	29	7
	33	42
2640-00-810-5861	27	5
5365-00-815-7054	9	12
2530-00-815-7082	9	9
5315-00-816-1794	23	15
5310-00-823-8803	28	5
5310-00-834-7606	28	2

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STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5310-00-834-7606	31	8	5365-00-899-6723	10	17
5310-00-834-8732	33	50	5305-00-903-2190	24	14
5310-00-834-8734	23	6	5310-00-903-3993	12	4
5310-00-835-2037	42	1	4730-00-908-3194	18	4
5315-00-839-2325	9	20	4730-00-909-8627	33	18
	11	10	5310-00-923-1925	10	7
5315-00-839-2326	9	1	4010-00-923-5970	29	6
5315-00-839-5822	23	34	5310-00-924-4218	12	9
9905-00-841-4445	6	4	5365-00-929-8927	36	8
	7	4	4030-00-930-3154	31	3
5310-00-842-1190	40	2	5330-00-930-5292	18	2
5310-00-842-1488	23	13	5310-00-934-9757	5	4
5310-00-842-1490	33	24	5310-00-935-3569	25	13
5315-00-842-3044	10	1	5340-00-937-5286	32	16
5315-00-844-3665	31	15	5305-00-951-5617	14	12
5315-00-844-5833	31	18		19	11
6220-00-846-9745	1	1	5305-00-958-5246	33	15
5310-00-851-2682	29	17	5305-00-958-5477	23	26
5315-00-852-4114	32	38	2530-00-973-2355	12	15
5310-00-853-9335	13	8	2530-00-973-2356	12	15
5305-00-855-0956	4	6	5310-00-975-2075	9	15
5360-00-860-0524	39	23	5310-00-982-4908	25	1
5310-00-860-0528	39	3		36	4
5310-00-860-0529	38	5	5310-00-982-5042	24	1
2590-00-860-0530	38	7	5305-00-983-6622	34	19
2590-00-860-0531	38	1	5305-00-983-8084	33	17
5315-00-860-0532	38	18	5305-00-984-4983	38	16
2590-00-860-0534	39	4	5305-00-984-5672	10	11
5330-00-860-0535	38	15	5305-00-984-6193	5	1
3040-00-860-0536	38	26	5305-00-984-6210	9	23
6150-00-860-0538	7	1	5340-00-985-0823	10	3
9905-00-861-7075	47	1	2530-00-987-2565	12	27
4010-00-861-7077	28	17	4730-00-987-9073	22	5
2590-00-861-7078	33	44	5305-00-988-1721	5	6
2590-00-862-2675	33	49		10	16
5365-00-871-2881	39	11		15	8
5310-00-880-7744	11	7		46	3
	34	10	5305-00-988-1723	12	23
5310-00-880-7745	15	11		25	21
5310-00-880-7746	21	5	5305-00-988-1725	5	13
5310-00-891-1711	15	13		20	3
9905-00-893-3570	6	4	2530-00-991-4342	12	27
2590-00-895-7306	36	1	5306-00-994-1019	10	5
2590-00-895-7307	36	11	1440-00-994-8975	13	13
3120-00-899-1355	39	5	2540-00-999-5584	30	4
9905-00-899-1507	47	4	2530-01-015-2203	11	23
9905-00-899-1508	47	5	5340-01-041-5052	7	5
3120-00-899-4072	38	31	5305-01-063-5055	35	5
3120-00-899-5216	38	20	5310-01-073-8614	38	3
5330-00-899-5217	38	14		39	30

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NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
3020-01-079-3161	32	26			
5340-01-082-9321	29	11			
2530-01-083-5641	13	12			
6220-01-093-4439	3	1			
5360-01-111-2289	11	3			
4730-01-149-9928	20	5			
1095-01-162-0352	21	11			
2590-01-183-6816	32	4			
5340-01-189-6405	19	6			
	20	13			
2530-01-226-8030	23	24			
5340-01-231-8594	9	7			
2590-01-254-6554	32	21			

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
88044	AN6-14A	5306-00-206-2865	36	6
88044	AN935-816	5310-01-073-8614	38	3
			39	30
80571	BK75S4	5315-00-010-3496	10	2
08162	BT3595	3110-00-142-4358	24	8
96906	CS24665-499		30	1
81600	C61072ARPC29	5330-00-154-8353	24	16
63477	FD13351	4710-00-741-1907	16	11
63477	F18800	5340-00-610-3338	11	8
63477	F19582	2530-00-794-9763	12	17
85749	IF316	5315-00-816-1794	23	15
60038	K91509		24	7
95030	LOOM 1/4 ID		14	15
08288	MSS5305-43		40	11
96906	MS15001-1	4730-00-050-4203	38	4
96906	MS15003-1	4730-00-050-4208	31	30
			32	32
			34	6
			38	22
96906	MS15003-5	4730-00-172-0031	28	10
96906	MS15003-6	4730-00-172-0034	32	22
96906	MS15570-1251	6240-00-019-0877	1	5
			2	5
			3	7
96906	MS15570-623	6240-00-019-3093	3	4
96906	MS16536-175	5320-00-011-9951	12	22
96906	MS16562-68	5315-00-844-3665	31	15
96906	MS16562-74	5315-00-058-6011	31	31
96906	MS16562-81	5315-00-844-5833	31	18
96906	MS16624-1125	5365-00-721-6876	33	47
96906	MS16625-1387	5365-00-260-4882	24	17
96906	MS16997-142	5305-00-187-9934	38	2
96906	MS16997-60	5305-00-983-8084	33	17
96906	MS16997-81	5305-00-983-6622	34	15
96906	MS18154-58	5305-00-115-9526	2	8
			13	2
96906	MS19068-091	5310-00-185-6461	24	5
96906	MS19070-092	5310-00-205-8249	24	6
96906	MS20392-7C37	5315-00-081-7042	23	35
96906	MS20392-9C127		28	7
96906	MS21045-6	5310-00-982-4908	25	1
			36	4
96906	MS21045-8	5310-00-062-4954	23	1
96906	MS21318-58	5305-00-253-5632	47	3
96906	MS21333-105	5340-00-809-1494	5	14
			20	1
96906	MS21333-16	5340-00-177-3711	20	9
96906	MS21333-34	5340-00-282-7519	15	6
96906	MS21333-36	5340-00-286-2494	14	1
96906	MS21333-37	5340-00-282-7515	9	21
96906	MS24629-47	5305-00-855-0956	4	6

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS24629-58	5305-00-052-6922	4	3
96906	MS24630-46	5305-00-951-5617	14	12
			19	11
96906	MS24649-57		14	3
96906	MS24665-132	5315-00-839-2325	9	20
			11	10
96906	MS24665-281	5315-00-839-2326	9	1
96906	MS24665-283	5315-00-842-3044	10	1
96906	MS24665-285	5315-00-005-0442	33	25
96906	MS24665-353	5315-00-839-5822	23	34
96906	MS24665-355	5315-00-012-0123	28	4
96906	MS24665-357	5315-00-298-1481	31	29
96906	MS24665-423	5315-00-013-7228	23	18
96906	MS25336-50		39	6
96906	MS27183-10	5310-00-809-4058	5	10
			37	3
96906	MS27183-12	5310-00-081-4219	39	21
96906	MS27183-14	5310-00-080-6004	25	2
			29	12
			33	36
			35	6
			36	5
			39	25
96906	MS27183-18	5310-00-809-5998	23	2
			31	7
			33	51
96906	MS27183-19	5310-00-809-3079	28	3
96906	MS27183-21	5310-00-823-8803	28	5
96906	MS27183-23	5310-00-809-8533	29	7
			33	42
96906	MS27183-29	5310-00-209-0698	30	3
96906	MS28775-012	5330-00-584-0265	21	5
96906	MS35140-12	5340-00-655-7761	4	4
			19	3
96906	MS35140-5		14	14
96906	MS35140-6	5340-00-282-7793	19	5
96906	MS35190-254	5305-00-958-5477	23	26
96906	MS35190-289	5305-00-958-5246	33	15
96906	MS35206-226	5305-00-984-4983	38	16
96906	MS35206-245	5305-00-984-6193	5	1
96906	MS35206-263	5305-00-984-6210	9	23
96906	MS35206-277	5305-00-988-1721	5	6
			10	16
			15	8
			46	3
96906	MS35206-279	5305-00-988-1723	12	23
			25	21
96906	MS35206-281	5305-00-988-1725	5	13
			20	3
96906	MS35206-292	5305-00-984-5672	10	11
96906	MS35308-409	5305-00-903-2190	24	14

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS35333-40	5310-00-550-1130	46	2
96906	MS35333-41	5310-00-167-0721	13	9
96906	MS35333-44	5310-00-194-1483	40	4
96906	MS35335-32	5310-00-596-7691	4	5
96906	MS35335-33	5310-00-209-0786	4	2
			14	2
96906	MS35335-34	5310-00-514-6674	34	9
96906	MS35335-35	5310-00-627-6128	13	3
96906	MS35335-36	5310-00-550-3503	12	5
96906	MS35335-39	5310-00-800-0695	33	23
96906	MS35338-42	5310-00-045-3299	5	3
96906	MS35338-43	5310-00-045-3296	9	22
			14	13
			19	10
96906	MS35338-44	5310-00-582-5965	5	7
			10	15
			12	8
			15	7
			19	2
			20	2
			22	8
			23	32
			33	8
			37	2
96906	MS35338-45	5310-00-407-9566	1	8
			10	10
			11	6
			19	5
			20	12
			21	6
96906	MS35338-46	5310-00-637-9541	2	7
			9	6
			11	28
			21	3
			23	12
			28	15
			33	29
			35	7
			39	16
			43	2
			44	5
96906	MS35338-47	5310-00-209-0965	24	2
96906	MS35338-48	5310-00-584-5272	11	25
96906	MS35338-63	5310-00-274-8715	25	20
96906	MS35340-48	5310-00-834-7606	28	2
			31	8
96906	MS35340-50	5310-00-045-5001	39	6
96906	MS35426-18	5310-00-982-5042	24	1
19207	MS35478-1683	6240-00-044-6914	2	4
			3	5
96906	MS35489-16	5325-00-276-6089	4	13

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS35489-43S	5325-00-795-0719	4	10
96906	MS35489-45	5325-00-285-8363	4	9
96906	MS35489-49	5325-00-276-5954	4	12
96906	MS35490-35		19	13
96906	MS35648-16	5340-00-054-1416	23	14
96906	MS35649-282	5310-00-934-9757	5	4
96906	MS35671-56	5315-00-067-5093	38	8
96906	MS35674-29	5315-00-852-4114	32	38
96906	MS35674-41	5315-00-062-5417	32	30
96906	MS35677-51	5315-00-068-2498	38	9
96906	MS35691-13	5310-00-853-9335	13	8
96906	MS35691-17	5310-00-851-2682	29	17
96906	MS35691-25	5310-00-891-1711	15	13
96906	MS35691-33	5310-00-834-8732	33	50
96906	MS35691-37	5310-00-834-8734	23	6
96906	MS35691-53	5310-00-835-2037	42	1
96906	MS35691-61	5310-00-842-1190	40	2
96906	MS35692-21	5310-00-842-1488	23	13
96906	MS35692-37	5310-00-842-1490	33	24
96906	MS35746-1	4730-00-595-0083	22	1
96906	MS35748-1	5330-00-090-2128	22	2
96906	MS35756-10	5315-00-616-5524	34	13
96906	MS35756-101	5315-00-616-5505	34	12
96906	MS35756-12	5315-00-616-5522	34	26
96906	MS35810-3	5315-00-754-0848	9	2
96906	MS35812-4	5340-00-985-0823	10	3
96906	MS35842-11	4730-00-908-3194	18	4
96906	MS35842-13	4730-00-909-8627	33	18
96906	MS38338-46		45	9
96906	MS39133-2-B	4730-00-987-9073	22	5
96906	MS39202-6		20	6
96906	MS39206-7	4730-01-149-9928	20	5
96906	MS45905S6	5310-00-923-1925	10	7
96906	MS51302-1	6220-00-846-9745	1	1
96906	MS51329-1	6220-00-669-5623	2	1
96906	MS51339-3	2540-00-999-5584	30	4
96906	MS51377-1	2640-00-810-5861	27	5
96906	MS51922-17	5310-00-087-4652	10	12
96906	MS51922-49	5310-00-269-4040	29	4
96906	MS51922-53	5310-00-225-6408	38	13
			40	6
96906	MS51922-57	5310-00-067-6356	33	41
96906	MS51943-42	5310-00-241-6661	32	10
96906	MS51943-46	5310-00-935-3569	25	13
96906	MS51946-1	5306-00-733-9239	25	14
96906	MS51955-74	5305-00-054-9288	28	12
96906	MS51959-46	5305-00-764-0070	1	2
96906	MS51963-104	5305-00-724-5885	39	2
96906	MS51963-99	5305-00-724-5839	33	53
96906	MS51965-28	5305-00-719-5342	33	1
96906	MS51967-2	5310-00-761-6882	5	11

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS51967-2	5310-00-761-6882	22	9
			33	7
			37	1
96906	MS51967-23	5310-00-763-8921	29	8
96906	MS51967-5	5310-00-880-7744	11	7
			34	10
96906	MS51967-8	5310-00-732-0558	9	5
			11	29
			21	2
			29	16
			33	35
			39	15
			43	1
			44	6
			45	10
96906	MS51968-11	5310-00-880-7745	15	11
96906	MS51968-14	5310-00-732-0560	11	26
			12	26
			40	13
96906	MS51968-20	5310-00-763-8905	42	2
96906	MS51968-23	5310-00-763-8901	40	1
96906	MS51968-5	5310-00-880-7746	21	5
96906	MS51968-8	5310-00-732-0559	9	17
			10	4
			35	8
96906	MS51970-1	5310-00-924-4218	12	9
96906	MS51970-4	5310-00-903-3993	12	4
96906	MS51973-74	5305-00-728-6291	40	10
96906	MS51983-1	5310-00-518-5566	24	19
			25	15
96906	MS51983-2	5310-00-594-8038	24	19
			25	15
96906	MS52125-2	6220-01-093-4439	3	1
96906	MS521301A204120	4720-00-809-2750	18	3
96906	MS53044-5	2530-00-026-0265	26	1
96906	MS53045-3	2530-00-738-9061	26	2
96906	MS5795-714		36	7
96906	MS87006-51	4030-00-930-3154	31	3
96906	MS90725-118	5305-00-050-1077	31	6
96906	MS90725-158		39	8
96906	MS90725-162	5305-00-724-5910	39	7
96906	MS90725-164	5305-00-051-0827	33	22
96906	MS90725-3	5305-00-068-0500	20	10
96906	MS90725-31	5306-00-225-8496	16	5
			19	4
			20	11
			32	14
			39	14
96906	MS90725-400	5305-01-063-5055	35	5
96906	MS90725-52	5306-00-225-8516	34	25
96906	MS90725-58	5305-00-269-3209	44	4

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
96906	MS90725-58	5305-00-269-3209	45	8
96906	MS90725-6	5305-00-068-0502	19	1
96906	MS90725-65	5305-00-269-3215	33	34
96906	MS90725-66	5305-00-269-3216	23	29
			33	30
			39	26
96906	MS90725-67	5305-00-269-3217	10	18
96906	MS90725-75	5305-00-269-3225	9	10
96906	MS90725-8	5305-00-225-3839	33	5
96906	MS90725-84	5305-00-069-5572	24	1
96906	MS90725-9	5305-00-071-2242	37	7
96906	MS90726-111	5305-00-719-5219	32	17
96906	MS90726-178	5305-00-726-2572	42	7
96906	MS90726-29	5306-00-225-9084	1	7
96906	MS90726-33	5306-00-225-9088	21	14
96906	MS90726-61	5305-00-269-2804	11	27
96906	MS90726-64	5305-00-269-2807	12	24
			28	14
96906	MS90726-74	5305-00-269-2818	35	9
96906	MS90726-8	5305-00-068-0515	12	18
96906	MS90727-64	5305-00-269-3240	32	11
96906	MS90728-114	5305-00-071-2070	23	20
96906	MS90728-118	5305-00-071-2074	39	31
96906	MS90728-160	5305-00-724-7219	39	7
96906	MS90728-164	5305-00-724-7222	39	9
96906	MS90728-165	5305-00-724-7223	39	19
96906	MS90728-29	5306-00-226-4822	11	5
			39	20
96906	MS90728-3	5305-00-071-2506	23	33
96906	MS90728-63	5305-00-688-2111	43	5
96906	MS90728-66	5305-00-782-9489	39	17
81349	M43436/1-2	9905-00-841-4445	6	4
			7	4
81349	M43436/1-3	9905-00-893-3570	6	4
40342	N12972	5310-00-679-3606	22	13
81349	RR-C-271BTY1GRCCL5STYLE1		31	4
51665	US48	2640-00-060-3550	27	6
81348	ZZ-I-550/900-20/TR175A/CNCTR		27	1
81348	ZZ-T-381M/GROUP3/9.00-20/D/TBCC	2610-00-262-8677	27	3
92867	01001307	3040-00-330-3262	10	13
00006	02420	3110-00-100-0633	32	24
08162	02475	3110-00-100-9812	32	25
92392	0913475	4730-00-261-4224	14	10
89619	107AX	4710-00-203-3171	19	12
19207	108063967		36	12
19207	10860001		44	3
19207	10860050		45	5
19207	10860065		35	2

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19207	10860065		36	10
			36	14
19207	10860068	2590-00-895-7306	36	1
19207	10860069	2590-00-895-7307	36	11
19207	10860085	2590-00-679-4536	33	21
19207	10860086	2590-00-076-1942	33	20
19207	10860091	5365-00-168-2762	33	6
19207	10860093		37	5
19207	10860099		44	1
19207	10860102	9905-00-679-4530	47	1
19207	10860103	9905-00-679-4539	47	7
19207	10860106	2530-00-679-4542	23	28
19207	10860107		23	28
19207	10860113		23	30
19207	10860114	2530-01-226-8030	23	24
19207	10860115	3120-00-679-4549	23	23
19207	10860117	5340-00-679-4571	23	17
19207	10860118	5340-00-679-4570	23	22
19207	10860119		23	3
19207	10860120		23	4
19207	10860121		23	21
19207	10860122	5315-00-679-4575	23	19
19207	10860123	5310-00-679-4574	41	2
19207	10860124	5306-00-679-4573	41	1
19207	10860125		23	27
19207	10860127		23	25
19207	10860128		23	10
19207	10860129		23	11
19207	10860130	2530-00-679-4514	23	31
19207	10860131		23	5
19207	10860134	2510-00-679-4544	23	9
19207	10860135	2530-00-679-4540	23	9
19207	10860136		23	8
19207	10860145		37	8
19207	10860146		37	6
19207	10860936		33	58
19207	10860937	2590-00-862-2675	33	49
19207	10860938	5306-00-796-2621	33	14
19207	10885442	5310-00-860-0528	39	3
19207	10885443	5315-00-860-0532	38	18
19207	10885445	3120-00-899-1355	39	5
19207	10885446	5330-00-860-0535	38	15
19207	10885448	5340-00-076-1943	38	17
19207	10885450	5310-00-860-0529	38	5
19207	10885452	2590-00-860-0534	39	4
19207	10885453	5340-00-076-0044	39	18
19207	10885454		38	10
19207	10885459	2590-00-860-0530	38	7
19207	10885462	3040-00-076-0046	39	27
19207	10885466	3040-00-076-0048	39	22
19207	10885467		39	12

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
18876	10885474		39	1
19207	10885476	3040-00-076-0049	38	15
19207	10891201		29	19
19207	10891219		43	3
19207	10891229		29	18
19207	10891260	2540-00-075-9146	43	4
19207	10891262	2590-00-411-2063	6	1
19207	10891263	6150-00-860-0538	7	1
19207	10891266	9905-00-899-1508	47	5
19207	10891268	9905-00-899-1507	47	4
19207	10891278		39	10
19207	10891283	4030-00-075-7212	29	9
19207	10891284	5306-00-075-7215	29	10
19207	10891298		39	28
19207	10891299	5340-00-076-0050	38	32
19207	10899780		35	3
			36	2
			36	13
19207	10905840	5975-00-345-8055	5	9
19207	10906356		36	3
19207	10906359	2590-00-076-1944	33	3
19207	10906406		33	48
19207	10906407	2590-00-861-7078	33	44
19207	10906417		37	4
19207	10906418	2590-00-076-1945	37	4
19207	10914241		35	4
19207	10914242		35	4
19207	10914243	2590-00-076-1946	35	1
19207	10914244	2590-00-076-1947	35	1
19207	10914245	2590-00-125-3795	33	46
19207	10914247	2590-00-076-1948	33	9
19207	10914359	5120-00-229-5711	33	27
19207	10914500	5340-00-075-9147	40	3
19207	10933266	5340-00-075-9145	44	2
19207	10933281		33	46
19207	10933282	2590-00-076-1949	33	9
19207	10933343	4710-00-075-7216	20	7
19207	10933345	4710-00-231-7432	20	8
43991	110AC		34	11
19207	11639519-2	5330-00-462-0907	3	3
19207	11639520		3	6
19207	11639535	6220-00-179-4324	3	2
19207	11682176	3020-01-079-3161	32	26
19207	12259830	2590-01-183-6816	32	4
19207	12259830-1	2590-01-254-6554	32	21
02246	125-298		31	22
21450	126870		29	13
24617	127927	4730-00-287-1707	14	9
52793	13394		31	13
21450	142896		38	6
21450	144245	5340-00-177-3957	23	7

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
12204	1502415	4730-00-036-4421	15	3
24617	15039R		19	8
64959	171732		47	6
21450	171764		46	3
			47	2
			47	2
10001	1785042		34	2
21450	179125	5307-00-017-9125	15	10
21450	187745	5305-00-105-6871	32	31
24617	187851		38	21
73808	20R	2640-00-158-5617	27	2
44674	20020		34	28
13305	23507	5310-00-768-0318	31	9
06853	235092	5330-00-285-5123	22	15
06853	235093	5360-00-706-9054	22	14
50513	25030W	5330-00-614-4356	25	18
01957	266697	3110-00-142-4351	38	25
95026	27X4650		32	28
61220	28622	3110-00-100-0567	24	12
80244	42014495		29	2
21450	425324	5306-00-655-9522	9	3
19207	443339	5310-00-044-3339	23	16
21450	443921	5310-00-975-2075	9	15
24617	444000	4730-00-301-7470	19	15
19207	444166	4730-00-277-5553	19	14
19207	454634	5310-00-590-7893	32	18
81343	469F6-4		19	16
19207	500333		22	3
21450	500348	5306-00-050-0348	29	3
21450	506209	5940-00-050-6209	7	6
19207	5156636	5330-00-930-5292	18	2
19207	5167679	4730-00-463-1588	15	9
19207	5203089		31	2
19207	5214930	5310-00-359-0458	14	7
19207	5298653	5365-00-274-4544	14	5
			15	2
			16	2
19207	5303461	2530-00-408-9177	10	9
19207	5323088	5310-00-641-9939	12	7
21450	538008		9	16
21450	541401	5340-00-276-5849	34	4
19207	544160		33	45
19207	545033	5340-00-275-6042	5	2
19207	5703039	5365-00-871-2881	39	11
19207	573111		4	14
			9	24
19207	588463		45	7
81343	6-4 120102BA	4730-00-069-1186	19	7
19200	6144454	2530-00-614-4454	25	19
19207	6161059A	9905-00-205-2795	46	1
			46	1

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
52676	6204ZJ	3110-00-516-5850	34	22
27783	650	2640-00-555-2843	27	4
09386	68248	5306-00-383-4957	25	14
21450	700076	3110-00-516-5289	34	27
19207	7001762	5360-00-535-1924	5	5
19207	7032128	2590-00-177-8306	32	19
19207	7032131	2530-00-679-3154	32	23
19207	7032132	3040-00-679-3676	32	29
19207	7032134	5310-00-431-7435	32	12
19207	7032135	5340-00-495-7212	32	15
19207	7032136	5340-00-937-5286	32	16
19207	7032137	2590-00-133-9728	32	34
19207	7032143	2590-00-782-3254	32	35
19207	7032155	2530-00-679-3156	32	36
19207	7032156	5315-00-679-3675	32	39
19207	7032176	4010-00-435-7709	31	32
19207	7034651	3110-00-606-1841	31	25
19207	7049884	2590-00-679-3678	10	8
21450	705472	3110-00-100-3563	24	15
19207	7056709	5940-00-705-6709	7	6
19207	7059814	5120-00-711-8418	48	1
09386	706278	5306-00-335-4768	25	5
19207	7064602	5340-00-692-9212	45	6
19207	7064978	2530-00-693-1007	12	19
19207	7064979		12	20
21450	706640	3110-00-100-0293	24	9
21450	706915		38	33
18876	7089584	3040-00-860-0536	38	26
19207	7092048	2540-00-679-4519	41	4
19207	7222571		24	11
19207	7320658	5330-00-297-7106	2	3
19207	7328401		38	34
19207	7328402	3120-00-899-4072	38	31
19207	7328405		38	23
19207	7335058	2530-00-773-9386	11	21
19207	7335059	2530-00-773-9387	11	21
19207	7339238	5306-00-383-4957	24	18
19207	7339239	5306-00-733-9239	24	18
19207	7339422	5310-00-733-9422	9	14
19207	7339460		29	5
19207	7341458		33	52
19207	7341459		33	56
19207	7341460		33	55
19207	7341461		33	54
19207	7341462		41	3
19207	7341463	2590-00-679-4507	33	13
19207	7348221	9905-00-202-3639	46	1
19207	7349028	5310-00-424-1452	42	3
19207	7349029	5310-00-424-1456	42	5
19207	7350985	5310-00-588-0386	31	27
19207	7358183		7	3

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19207	7358187		7	2
19207	7373260	2530-00-737-3260	16	8
19207	7373354	5330-00-737-3354	18	8
19207	7389620	2530-00-738-9620	26	3
19207	7392815	3040-00-330-3262	9	8
19207	7409322	2530-00-274-4510	17	2
19207	7410218	5310-00-407-9566	16	6
			32	13
			39	13
19207	7411022	2530-00-797-9295	22	10
19207	7411027	4010-00-741-1027	29	1
19207	7411028	5310-00-741-1028	30	2
19207	7411030	3120-00-661-9119	32	37
19207	7411081	2940-00-741-1081	22	12
19207	7411376	3110-00-143-7538	25	9
19207	7411377	3110-00-143-7586	25	12
19207	7411378	5310-00-741-1378	12	25
			25	17
19207	7411379	5310-00-741-1379	25	16
19207	7411425	2530-00-741-1425	25	3
19207	7411429	5330-00-741-1429	25	8
19207	7411433	5365-00-741-1433	25	7
19207	7411760	5306-00-741-1760	12	2
19207	7411903	4730-00-741-1903	16	12
19207	7412050	2530-00-741-2050	16	10
19207	7412065	2530-00-741-2065	16	9
19207	7412068	2530-00-741-2068	16	7
19207	7412079	4730-00-729-6437	15	5
			16	1
19207	7412088	5310-00-741-2088	15	4
			16	4
19207	7412103	5365-00-741-2103	12	6
19207	7412104	3020-00-741-2104	13	10
19207	7412106	5315-00-741-2106	12	3
19207	7412120	5310-00-741-2120	13	11
19207	7413231	2530-00-741-3231	25	4
19207	7414684	5310-00-741-4684	30	2
19207	7415340		36	9
19207	7415748	2530-00-741-5748	22	11
19207	7520774	3020-00-571-6104	38	24
19207	7520777		38	29
19207	7520829		38	27
19207	7524649	9905-00-752-4649	6	2
			7	7
19207	7525997		2	6
19207	7526020	6220-00-752-6020	2	2
19207	7539268	2530-00-287-8252	16	8
19207	7612769		11	12
19207	7612773		11	2
19207	7612774		11	9
19207	7696416		38	28

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19207	7703652	5340-00-264-7716	4	7
19207	7707070	2530-00-770-7070	42	9
19207	7720853	6145-00-152-6499	6	3
19207	7743745		4	8
19207	7745464	4730-00-419-9425	14	6
			16	3
19205	7793470	5315-00-690-0544	38	30
05386	78324		24	13
19207	7950946	5120-00-795-0946	48	1
19207	7966195	5310-00-080-2289	32	3
19207	7973176	2530-00-679-4543	24	10
19207	7974916	5365-00-350-0155	42	4
19207	7979296	5306-00-797-9296	22	7
19207	7979373	9905-00-282-7489	47	7
19207	7979558	4010-00-923-5970	29	6
19207	7979599	1095-01-162-0352	21	11
19207	7979602		21	13
19207	7979605	2530-00-192-8928	21	7
19207	7979608	5360-00-700-4429	21	8
19207	7979610	5340-00-178-1441	21	10
19207	7979611	2530-00-737-7783	21	12
19207	7979613	4730-00-580-8457	22	16
63477	7979691	4730-00-773-2163	18	7
19207	7979695	1440-00-689-6160	18	9
19207	7979851	5340-01-189-6405	19	6
			20	13
19207	7979971	5315-00-536-3865	32	9
19207	7979972	5306-00-174-4246	32	20
19207	7979974	2590-00-670-1997	32	6
00000	7984623	5310-00-550-4242	39	24
19207	8005089	2590-00-582-5503	38	11
19207	8016879		11	17
18876	8016971	2530-00-135-9031	11	1
19207	8016972	2530-00-177-8207	11	1
19207	8016973	2530-00-610-3273	11	11
19207	8016975		11	14
19207	8016976		11	18
19207	8016977		11	24
19207	8016978		11	16
19207	8016980	2530-01-015-2203	11	23
19207	8016981	2530-00-443-0033	11	23
19207	8016983	2530-00-633-7972	11	4
19207	8016998	5360-01-111-2289	11	3
19207	8017002		17	1
19207	8017003	2530-00-318-1116	17	1
19207	8017159	2530-00-092-9641	11	20
19207	8017162		11	19
19207	8017164		11	22
19207	8017236		14	4
18876	8020015	5310-00-341-2387	38	12
19207	8020123	5365-00-341-2388	32	27

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
18876	8020716	5365-00-331-2340	32	33
19207	8328782	4730-00-278-6318	20	4
19207	8330139	5340-00-040-2365	5	8
19207	8330805	4720-00-318-1016	22	4
19207	8330813	5310-00-270-8834	32	2
19207	8330821	5310-00-270-8832	32	1
19207	8331539	2530-00-693-0736	32	5
19207	8331541	5360-00-699-8489	32	7
19207	8331542	5310-00-693-0738	32	8
19207	8331546	5340-00-693-0739	10	6
19207	8333770	5360-00-699-9018	12	16
19207	8333771	2530-00-693-1010	25	10
19207	8333780	5306-00-206-1560	25	6
19207	8336704	2530-00-770-9149	13	7
19207	8336705	2530-00-770-9150	13	6
19207	8336789	2530-00-770-9151	13	6
19207	8347212	5340-00-040-2364	4	15
19207	8347216	5340-01-041-5052	7	5
19207	8357980	2530-00-204-4800	18	6
19207	8357981	2530-00-293-5139	21	4
19207	8363955	2510-00-679-3681	40	12
19207	8363957	2530-00-679-3683	8	1
19207	8363961	5340-00-075-9142	40	5
19207	8363966	5340-00-679-3682	40	14
19207	8363968	5305-00-655-9404	40	15
19207	8363969		42	6
19207	8363970	5305-00-679-3189	42	8
19207	8363971	3120-00-679-3159	40	7
19207	8363972	3120-00-679-3158	40	8
19207	8363973	5315-00-679-3160	40	9
19207	8363978	5340-00-679-3185	4	1
			5	12
19207	8363981	4720-00-679-3679	15	14
19207	8363982	4710-00-679-3162	15	1
19207	8363983	4710-00-679-3163	15	12
19207	8363986	5306-00-994-1019	10	5
19207	8363987		10	14
19207	8363988	2540-00-177-8192	10	19
19207	8364004	5340-01-082-9321	29	11
19207	8364009		29	14
19207	8364010		29	15
19207	8364023	2530-00-679-4538	31	10
19207	8364024		31	12
19207	8364025		31	19
19207	8364026	5315-00-076-3505	31	11
19207	8364027		31	14
19207	8364029		31	28
19207	8364031		31	17
19207	8364032	2590-00-076-1937	31	16
19207	8364034	2530-00-679-4508	31	21
19207	8364036	2530-00-770-9148	31	24

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19207	8364038	3110-00-606-1840	31	23
19207	8365390	4730-00-289-4937	18	1
19207	8365426	4710-00-511-1692	18	5
19207	8365427	2530-00-026-0200	21	1
19207	8374028		31	20
19207	8382933		11	13
19207	8387680	2590-00-860-0531	38	1
19207	8389628	5306-00-053-0512	40	16
18876	8528243	4720-00-629-8042	22	6
19207	8675852	5340-00-679-4523	24	3
19207	8675853	5330-00-679-4534	24	4
19207	8675854	2530-00-679-4506	9	13
19207	8675855	2530-00-679-4515	9	18
19207	8675963		34	7
19207	8683881	3130-00-076-0043	39	25
19207	8683884	5330-00-899-5217	38	14
19207	8683896	3120-00-899-5216	38	20
19207	8683898	5360-00-860-0524	39	23
19207	8686728	4010-00-861-7077	28	17
19207	8694464	5330-00-678-9047	1	4
19207	8695500	5365-00-899-6723	10	17
19207	8713986		11	15
19207	8719915	2530-00-677-0202	25	11
19207	8720331	1440-00-994-8975	13	13
19207	8720517	2530-00-522-4183	12	21
19207	8723800	2530-00-792-6283	12	1
19207	8723801		12	1
19207	8733890	2530-00-991-4342	12	27
19207	8733891	2530-00-987-2565	12	27
19207	8733892	2530-00-522-1157	12	17
18876	8733896	2530-00-798-4824	13	4
18876	8733897	2530-00-798-4812	13	4
19207	8733901	2530-00-791-3259	13	1
19207	8733902	2530-00-791-0110	13	1
19207	8733908	2530-00-159-8755	13	5
19207	8733909	2530-00-159-8756	13	5
19207	8733911	2530-00-973-2355	12	15
19207	8733912	2530-00-973-2356	12	15
19207	8733918	4710-00-630-9928	16	12
19207	8733920	4710-00-566-7133	16	11
19207	8733922	4710-00-566-7134	16	13
19207	8733926	3040-00-150-7127	12	10
19207	8733927	3040-00-074-2357	12	10
19207	8733932	2530-00-133-9831	13	12
19207	8733933	2530-01-083-5641	13	12
19207	8733935	5310-00-314-0764	12	11
19207	8733936	5310-00-314-0765	12	12
19207	8733937	5310-00-322-7260	12	13
19207	8733938	5315-00-322-7261	12	14
19207	8735786		34	18
19207	8735787		34	16

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19207	8739788	5310-00-679-4559	34	23
19207	8739792	3020-00-679-4814	34	17
19207	8739793	3020-00-679-4510	34	24
19207	8739794	3020-00-679-4488	34	15
19207	8739795	3020-00-679-4518	34	3
19207	8739797		34	8
19207	8739798		34	1
19207	8739799		34	5
19207	8739876		33	4
19207	8739881	5330-00-679-4524	33	10
19207	8739882		33	57
19207	8739883		33	12
19207	8739900		28	8
19207	8740063	5315-00-679-4576	9	19
19207	8740064	4720-00-679-4511	14	11
19207	8740066	4710-00-679-4486	14	8
19207	8740108		28	11
19207	8740109		28	11
19207	8740110		28	13
19207	8740111		28	13
19207	8740112		28	9
19207	8740113		28	16
19207	8740114		28	16
19207	8740166		34	20
19207	8740167	5330-00-679-4485	34	21
19207	8740168	2590-00-076-1939	34	14
19207	8740170		34	25
19207	8740175	5315-00-679-4521	33	40
19207	8740187		31	26
19207	8740191	5315-00-679-4535	31	5
20800	8740192		31	1
19207	8741646	6220-00-775-2384	1	3
19207	8741650		1	6
19207	8747908	5340-00-611-7883	4	11
19207	8759629		45	1
19207	8759630		45	2
19207	8759653		45	3
19207	8759745	2590-00-703-4145	7	1
19207	8759746	2590-00-796-2622	33	11
19207	8759747		33	16
19207	8759750	6150-00-703-4138	6	1
19207	8759766	2590-00-022-6727	33	19
19207	8759769	5365-00-929-8927	36	8
19207	8759823		33	39
19207	8759859		33	38
19207	8759860		33	37
19207	8759862	2590-00-076-1938	33	26
19207	8759865		33	2
19207	8759867		33	43
19207	8759890	5365-00-815-7054	9	12
19207	8759891	5340-01-231-8594	9	7

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CAGEC	PART NUMBER	STOCK NUMBER	FIG.	ITEM
19207	8759852	5340-00-169-5727	9	7
19207	8759853		9	4
19207	8759854	5306-00-717-4408	9	11
19207	8759855	2530-00-815-7082	9	9
19207	8759858		33	31
19207	8759859		33	32
19207	8759903	2590-00-808-6139	33	33
19207	8759904		33	28
19207	8759938	9905-00-861-7075	47	1
19207	9070061		28	6
66640	9112001	4730-00-018-9566	22	17
19207	9759654		45	4

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FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
1	1	6220-00-846-9745	96906	MS51302-1
1	2	5305-00-764-0070	96906	MS51959-46
1	3	6220-00-775-2384	19207	8741646
1	4	5330-00-678-9047	19207	8694464
1	5	6240-00-019-0877	96906	MS15570-1251
1	6		19207	8741650
1	7	5306-00-225-9084	96906	MS90726-29
1	8	5310-00-407-9566	96906	MS35338-45
2	1	6220-00-669-5623	96906	MS51329-1
2	2	6220-00-752-6020	19207	7526020
2	3	5330-00-297-7106	19207	7320658
2	4	6240-00-044-6914	19207	MS35478-1683
2	5	6240-00-019-0877	96906	MS15570-1251
2	6		19207	7525997
2	7	5310-00-637-9541	96906	MS35338-46
2	8	5305-00-115-9526	96906	MS18154-58
3	1	6220-01-093-4439	96906	MS52125-2
3	2	6220-00-179-4324	19207	11639535
3	3	5330-00-462-0907	19207	11639519-2
3	4	6240-00-019-3093	96906	MS15570-623
3	5	6240-00-044-6914	19207	MS35478-1683
3	6		19207	11639520
3	7	6240-00-019-0877	96906	MS15570-1251
4	1	5340-00-679-3185	19207	8363978
4	2	5310-00-209-0786	96906	MS35335-33
4	3	5305-00-052-6922	96906	MS24629-58
4	4	5340-00-655-7761	96906	MS35140-12
4	5	5310-00-596-7691	96906	MS35335-32
4	6	5305-00-855-0956	96906	MS24629-47
4	7	5340-00-264-7716	19207	7703692
4	8		19207	7743749
4	9	5325-00-285-8363	96906	MS35489-45
4	10	5325-00-795-0719	96906	MS35489-43S
4	11	5340-00-611-7883	19207	8747908
4	12	5325-00-276-5954	96906	MS35489-49
4	13	5325-00-276-6089	96906	MS35489-16
4	14		19207	573111
4	15	5340-00-040-2364	19207	8347212
5	1	5305-00-984-6193	96906	MS35206-245
5	2	5340-00-275-6042	19207	545033
5	3	5310-00-045-3299	96906	MS35338-42
5	4	5310-00-934-9757	96906	MS35649-282
5	5	5360-00-535-1924	19207	7001762
5	6	5305-00-988-1721	96906	MS35206-277
5	7	5310-00-582-5965	96906	MS35338-44
5	8	5340-00-040-2365	19207	8330139
5	9	5975-00-345-8055	19207	10905840
5	10	5310-00-809-4058	96906	MS27183-10
5	11	5310-00-761-6882	96906	MS51967-2
5	12	5340-00-679-3185	19207	8363978
5	13	5305-00-988-1725	96906	MS35206-281

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FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
5	14	5340-00-809-1494	96906	MS21333-105
6	1	2590-00-411-2063	19207	10891262
6	1	6150-00-703-4138	19207	8759750
6	2	9905-00-752-4649	19207	7524649
6	3	6145-00-152-6499	19207	7720853
6	4	9905-00-841-4445	81349	M43436/1-2
6	4	9905-00-893-3570	81349	M43436/1-3
7	1	2590-00-703-4145	19207	8759745
7	1	6150-00-860-0538	19207	10891263
7	2		19207	7358187
7	3		19207	7358183
7	4	9905-00-841-4445	81349	M43436/1-2
7	5	5340-01-041-5052	19207	8347216
7	6	5940-00-050-6209	21450	506209
7	6	5940-00-705-6709	19207	7056709
7	7	9905-00-752-4649	19207	7524649
8	1	2530-00-679-3683	19207	8363957
9	1	5315-00-839-2326	96906	MS24665-281
9	2	5315-00-754-0848	96906	MS35810-3
9	3	5306-00-655-9522	21450	425324
9	4		19207	8759893
9	5	5310-00-732-0558	96906	MS51967-8
9	6	5310-00-637-9541	96906	MS35338-46
9	7	5340-00-169-5727	19207	8759892
9	7	5340-01-231-8594	19207	8759891
9	8	3040-00-330-3262	19207	7392815
9	9	2530-00-815-7082	19207	8759895
9	10	5305-00-269-3225	96906	MS90725-75
9	11	5306-00-717-4408	19207	8759894
9	12	5365-00-815-7054	19207	8759890
9	13	2530-00-679-4506	19207	8675894
9	14	5310-00-733-9422	19207	7339422
9	15	5310-00-975-2075	21450	443921
9	16		21450	538008
9	17	5310-00-732-0559	96906	MS51968-8
9	18	2530-00-679-4515	19207	8675895
9	19	5315-00-679-4576	19207	8740063
9	20	5315-00-839-2325	96906	MS24665-132
9	21	5340-00-282-7515	96906	MS21333-37
9	22	5310-00-045-3296	96906	MS35338-43
9	23	5305-00-984-6210	96906	MS35206-263
9	24		21450	573111
10	1	5315-00-842-3044	96906	MS24665-283
10	2	5315-00-010-3496	80571	BK75S4
10	3	5340-00-985-0823	96906	MS35812-4
10	4	5310-00-732-0559	96906	MS51968-8
10	5	5306-00-994-1019	19207	8363986
10	6	5340-00-693-0739	19207	8331946
10	7	5310-00-923-1925	96906	MS45905S6
10	8	2590-00-679-3678	19207	7049884
10	9	2530-00-408-9177	19207	5303461

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FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
10	10	5310-00-407-9566	96906	MS35338-45
10	11	5305-00-984-5672	96906	MS35206-292
10	12	5310-00-087-4652	96906	MS51922-17
10	13	3040-00-330-3262	92867	01001307
10	14		19207	8363987
10	15	5310-00-582-5965	96906	MS35338-44
10	16	5305-00-988-1721	96906	MS35206-277
10	17	5365-00-899-6723	19207	8699500
10	18	5305-00-269-3217	96906	MS90725-67
10	19	2540-00-177-8192	19207	8363988
11	1	2530-00-135-9031	18876	8016971
11	1	2530-00-177-8207	19207	8016972
11	2		19207	7612773
11	3	5360-01-111-2289	19207	8016998
11	4	2530-00-633-7972	19207	8016983
11	5	5306-00-226-4822	96906	MS90728-29
11	6	5310-00-407-9566	96906	MS35338-45
11	7	5310-00-880-7744	96906	MS51967-5
11	8	5340-00-610-3338	63477	F18800
11	9		19207	7612774
11	10	5315-00-839-2325	96906	MS24665-132
11	11	2530-00-610-3273	19207	8016973
11	12		19207	7612769
11	13		19207	8382933
11	14		19207	8016975
11	15		19207	8713986
11	16		19207	8016978
11	17		19207	8016879
11	18		19207	8016976
11	19		19207	8017162
11	20	2530-00-092-9641	19207	8017159
11	21	2530-00-773-9386	19207	7335058
11	21	2530-00-773-9387	19207	7335059
11	22		19207	8017164
11	23	2530-00-443-0033	19207	8016981
11	23	2530-01-015-2203	19207	8016980
11	24		19207	8016977
11	25	5310-00-584-5272	96906	MS35338-48
11	26	5310-00-732-0560	96906	MS51968-14
11	27	5305-00-269-2804	96906	MS90726-61
11	28	5310-00-637-9541	96906	MS35338-46
11	29	5310-00-732-0558	96906	MS51967-8
12	1		19207	8723801
12	1	2530-00-792-6283	19207	8723800
12	2	5306-00-741-1760	19207	7411760
12	3	5315-00-741-2106	19207	7412106
12	4	5310-00-903-3993	96906	MS51970-4
12	5	5310-00-550-3503	96906	MS35335-36
12	6	5365-00-741-2103	19207	7412103
12	7	5310-00-641-9939	19207	5323088
12	8	5310-00-582-5965	96906	MS35338-44

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FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
12	9	5310-00-924-4218	96906	MS51970-1
12	10	3040-00-074-2357	19207	8733927
12	10	3040-00-150-7127	19207	8733926
12	11	5310-00-314-0764	19207	8733935
12	12	5310-00-314-0765	19207	8733936
12	13	5310-00-322-7260	19207	8733937
12	14	5315-00-322-7261	19207	8733938
12	15	2530-00-973-2355	19207	8733911
12	15	2530-00-973-2356	19207	8733912
12	16	5360-00-699-9018	19207	8333770
12	17	2530-00-522-1157	19207	8733892
12	17	2530-00-794-9763	63477	F19582
12	18	5305-00-068-0515	96906	MS90726-8
12	19	2530-00-693-1007	19207	7064978
12	20		19207	7064979
12	21	2530-00-522-4183	19207	8720517
12	22	5320-00-011-9951	96906	MS16536-175
12	23	5305-00-988-1723	96906	MS35206-279
12	24	5305-00-269-2807	96906	MS90726-64
12	25	5310-00-741-1378	19207	7411378
12	26	5310-00-732-0560	96906	MS51968-14
12	27	2530-00-987-2565	19207	8733891
12	27	2530-00-991-4342	19207	8733890
13	1	2530-00-791-0110	19207	8733902
13	1	2530-00-791-3259	19207	8733901
13	2	5305-00-115-9526	96906	MS18154-58
13	3	5310-00-627-6128	96906	MS35335-35
13	4	2530-00-798-4812	18876	8733897
13	4	2530-00-798-4824	18876	8733896
13	5	2530-00-159-8755	19207	8733908
13	5	2530-00-159-8756	19207	8733909
13	6	2530-00-770-9150	19207	8336705
13	6	2530-00-770-9151	19207	8336789
13	7	2530-00-770-9149	19207	8336704
13	8	5310-00-853-9335	96906	MS35691-13
13	9	5310-00-167-0721	96906	MS35333-41
13	10	3020-00-741-2104	19207	7412104
13	11	5310-00-741-2120	19207	7412120
13	12	2530-00-133-9831	19207	8733932
13	12	2530-01-083-5641	19207	8733933
13	13	1440-00-994-8975	19207	8720331
14	1	5340-00-286-2494	96906	MS21333-36
14	2	5310-00-209-0786	96906	MS35335-33
14	3		96906	MS24649-57
14	4		19207	8017236
14	5	5365-00-274-4544	19207	5298653
14	6	4730-00-419-9425	19207	7745464
14	7	5310-00-359-0458	19207	5214930
14	8	4710-00-679-4486	19207	8740066
14	9	4730-00-287-1707	24617	127927
14	10	4730-00-261-4224	92392	0913475

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FIGURE AND ITEM NUMBER INDEX

FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
14	11	4720-00-679-4511	19207	8740064
14	12	5305-00-951-5617	96906	MS24630-46
14	13	5310-00-045-3296	96906	MS35338-43
14	14		96906	MS35140-5
14	15		99030	LOOM 1/4 ID
15	1	4710-00-679-3162	19207	8363982
15	2	5365-00-274-4544	19207	5298653
15	3	4730-00-036-4421	12204	1502415
15	4	5310-00-741-2088	19207	7412088
15	5	4730-00-729-6437	19207	7412079
15	6	5340-00-282-7519	96906	MS21333-34
15	7	5310-00-582-5965	96906	MS35338-44
15	8	5305-00-988-1721	96906	MS35206-277
15	9	4730-00-463-1588	19207	5167679
15	10	5307-00-017-9125	21450	179125
15	11	5310-00-880-7745	96906	MS51968-11
15	12	4710-00-679-3163	19207	8363983
15	13	5310-00-891-1711	96906	MS35691-25
15	14	4720-00-679-3679	19207	8363981
16	1	4730-00-729-6437	19207	7412079
16	2	5365-00-274-4544	19207	5298653
16	3	4730-00-419-9425	19207	7745464
16	4	5310-00-741-2088	19207	7412088
16	5	5306-00-225-8496	96906	MS90725-31
16	6	5310-00-407-9566	19207	7410218
16	7	2530-00-741-2068	19207	7412068
16	8	2530-00-287-8252	19207	7539268
16	8	2530-00-737-3260	19207	7373260
16	9	2530-00-741-2065	19207	7412065
16	10	2530-00-741-2050	19207	7412050
16	11	4710-00-566-7133	19207	8733920
16	11	4710-00-741-1907	63477	FD13351
16	12	4730-00-741-1903	19207	7411903
16	13	4710-00-566-7134	19207	8733922
16	13	4710-00-630-9928	19207	8733918
17	1		19207	8017002
17	1	2530-00-318-1116	19207	8017003
17	2	2530-00-274-4510	19207	7409322
18	1	4730-00-289-4937	19207	8365390
18	2	5330-00-930-5292	19207	5156636
18	3	4720-00-809-2750	96906	MS521301A204120
18	4	4730-00-908-3194	96906	MS35842-11
18	5	4710-00-511-1692	19207	8365426
18	6	2530-00-204-4800	19207	8357980
18	7	4730-00-773-2163	63477	7979691
18	8	5330-00-737-3354	19207	7373354
18	9	1440-00-689-6160	19207	7979699
19	1	5305-00-068-0502	96906	MS90725-6
19	2	5310-00-582-5965	96906	MS35338-44
19	3	5340-00-655-7761	96906	MS35140-12
19	4	5306-00-225-8496	96906	MS90725-31

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FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
19	5	5310-00-407-9566	96906	MS35338-45
19	6	5340-01-189-6405	19207	7979851
19	7	4730-00-069-1186	81343	6-4 120102BA
19	8		24617	15039R
19	9	5340-00-282-7793	96906	MS35140-6
19	10	5310-00-045-3296	96906	MS35338-43
19	11	5305-00-951-5617	96906	MS24630-46
19	12	4710-00-203-3171	89619	107AX
19	13		96906	MS35490-35
19	14	4730-00-277-5553	19207	444166
19	15	4730-00-301-7470	24617	444000
19	16		81343	469F6-4
20	1	5340-00-809-1494	96906	MS21333-105
20	2	5310-00-582-5965	96906	MS35338-44
20	3	5305-00-988-1725	96906	MS35206-281
20	4	4730-00-278-6318	19207	8328782
20	5	4730-01-149-9928	96906	MS39206-7
20	6		96906	MS39202-6
20	7	4710-00-075-7216	19207	10933343
20	8	4710-00-231-7432	19207	10933345
20	9	5340-00-177-3711	96906	MS21333-16
20	10	5305-00-068-0500	96906	MS90725-3
20	11	5306-00-225-8496	96906	MS90725-31
20	12	5310-00-407-9566	96906	MS35338-45
20	13	5340-01-189-6405	19207	7979851
21	1	2530-00-026-0200	19207	8365427
21	2	5310-00-732-0558	96906	MS51967-8
21	3	5310-00-637-9541	96906	MS35338-46
21	4	2530-00-293-5139	19207	8357981
21	5	5310-00-880-7746	96906	MS51968-5
21	6	5310-00-407-9566	96906	MS35338-45
21	7	2530-00-192-8928	19207	7979605
21	8	5360-00-700-4429	19207	7979608
21	9	5330-00-584-0265	96906	MS28775-012
21	10	5340-00-178-1441	19207	7979610
21	11	1095-01-162-0352	19207	7979599
21	12	2530-00-737-7783	19207	7979611
21	13		19207	7979602
21	14	5306-00-225-9088	96906	MS90726-33
22	1	4730-00-595-0083	96906	MS35746-1
22	2	5330-00-090-2128	96906	MS35748-1
22	3		19207	500333
22	4	4720-00-318-1016	19207	8330805
22	5	4730-00-987-9073	96906	MS39133-2-8
22	6	4720-00-629-8042	18876	8528243
22	7	5306-00-797-9296	19207	7979296
22	8	5310-00-582-5965	96906	MS35338-44
22	9	5310-00-761-6882	96906	MS51967-2
22	10	2530-00-797-9295	19207	7411022
22	11	2530-00-741-5748	19207	7415748
22	12	2940-00-741-1081	19207	7411081

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FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
22	13	5310-00-679-3606	40342	N12972
22	14	5360-00-706-9054	06853	235093
22	15	5330-00-285-5123	06853	235092
22	16	4730-00-580-8457	19207	7979613
22	17	4730-00-018-9566	66040	9112001
23	1	5310-00-062-4954	96906	MS21045-8
23	2	5310-00-809-5998	96906	MS27183-18
23	3		19207	10860119
23	4		19207	10860120
23	5		19207	10860131
23	6	5310-00-834-8734	96906	MS35691-37
23	7	5340-00-177-3957	21450	144245
23	8		19207	10860136
23	9	2510-00-679-4544	19207	10860134
23	9	2530-00-679-4540	19207	10860135
23	10		19207	10860128
23	11		19207	10860129
23	12	5310-00-637-9541	96906	MS35338-46
23	13	5310-00-842-1488	96906	MS35692-21
23	14	5340-00-054-1416	96906	MS35648-16
23	15	5315-00-816-1794	89749	IF316
23	16	5310-00-044-3339	19207	443339
23	17	5340-00-679-4571	19207	10860117
23	18	5315-00-013-7228	96906	MS24665-423
23	19	5315-00-679-4575	19207	10860122
23	20	5305-00-071-2070	96906	MS90728-114
23	21		19207	10860121
23	22	5340-00-679-4570	19207	10860118
23	23	3120-00-679-4549	19207	10860115
23	24	2530-01-226-8030	19207	10860114
23	25		19207	10860127
23	26	5305-00-958-5477	96906	MS35190-254
23	27		19207	10860125
23	28		19207	10860107
23	28	2530-00-679-4542	19207	10860106
23	29	5305-00-269-3216	96906	MS90725-66
23	30		19207	10860113
23	31	2530-00-679-4514	19207	10860130
23	32	5310-00-582-5965	96906	MS35338-44
23	33	5305-00-071-2506	96906	MS90728-3
23	34	5315-00-839-5822	96906	MS24665-353
23	35	5315-00-081-7042	96906	MS20392-7C37
24	1	5305-00-069-5572	96906	MS90725-84
24	1	5310-00-982-5042	96906	MS35426-18
24	2	5310-00-209-0965	96906	MS35338-47
24	3	5340-00-679-4523	19207	6675892
24	4	5330-00-679-4534	19207	6675893
24	5	5310-00-185-6461	96906	MS19068-091
24	6	5310-00-205-8249	96906	MS19070-092
24	7		60038	K91509
24	8	3110-00-142-4358	08162	BT359S

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FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
24	9	3110-00-100-0293	21450	706640
24	10	2530-00-679-4543	19207	7973176
24	11		19207	7222571
24	12	3110-00-100-0567	61220	28622
24	13		09386	78324
24	14	5305-00-903-2190	96906	MS35308-409
24	15	3110-00-100-3563	21450	705472
24	16	5330-00-154-8353	81600	C61072ARPC29
24	17	5365-00-260-4882	96906	MS16625-1387
24	18	5306-00-383-4957	19207	7339238
24	18	5306-00-733-9239	19207	7339239
24	19	5310-00-518-5566	96906	MS51983-1
24	19	5310-00-594-8038	96906	MS51983-2
25	1	5310-00-982-4908	96906	MS21045-6
25	2	5310-00-080-6004	96906	MS27183-14
25	3	2530-00-741-1425	19207	7411425
25	4	2530-00-741-3231	19207	7413231
25	5	5306-00-335-4768	09386	706278
25	6	5306-00-206-1560	19207	8333780
25	7	5365-00-741-1433	19207	7411433
25	8	5330-00-741-1429	19207	7411429
25	9	3110-00-143-7538	19207	7411376
25	10	2530-00-693-1010	19207	8333771
25	11	2530-00-677-0202	19207	8719915
25	12	3110-00-143-7586	19207	7411377
25	13	5310-00-935-3569	96906	MS51943-46
25	14	5306-00-383-4957	09386	68248
25	14	5306-00-733-9239	96906	MS51946-1
25	15	5310-00-518-5566	96906	MS51983-1
25	15	5310-00-594-8038	96906	MS51983-2
25	16	5310-00-741-1379	19207	7411379
25	17	5310-00-741-1378	19207	7411378
25	18	5330-00-614-4356	50513	25030W
25	19	2530-00-614-4454	19200	6144454
25	20	5310-00-274-8715	96906	MS35338-63
25	21	5305-00-988-1723	96906	MS35206-279
26	1	2530-00-026-0265	96906	MS53044-5
26	2	2530-00-738-9061	96906	MS53045-3
26	3	2530-00-738-9620	19207	7389620
27	1		81348	ZZ-I-550/900-20/TR175A/ONCTR
27	2	2640-00-158-5617	73808	20R
27	3	2610-00-262-8677	81348	ZZ-T-381M/GROUP3/9.00-20/D/TBCC
27	4	2640-00-555-2843	27783	650
27	5	2640-00-810-5861	96906	MS51377-1
27	6	2640-00-060-3550	51665	US48
28	2	5310-00-834-7606	96906	MS35340-48
28	3	5310-00-809-3079	96906	MS27183-19
28	4	5315-00-012-0123	96906	MS24665-355
28	5	5310-00-823-8803	96906	MS27183-21

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FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
28	6		19207	9070061
28	7		96906	MS20392-90127
28	8		19207	8739900
28	9		19207	8740112
28	10	4730-00-172-0031	96906	MS15003-5
28	11		19207	8740108
28	11		19207	8740109
28	12	5305-00-054-9288	96906	MS51955-74
28	13		19207	8740110
28	13		19207	8740111
28	14	5305-00-269-2807	96906	MS90726-64
28	15	5310-00-637-9541	96906	MS35338-46
28	16		19207	8740113
28	16		19207	8740114
28	17	4010-00-861-7077	19207	8686728
29	1	4010-00-741-1027	19207	7411027
29	2		80244	42014495
29	3	5306-00-050-0348	21450	500348
29	4	5310-00-269-4040	96906	MS51922-49
29	5		19207	7339460
29	6	4010-00-923-5970	19207	7979598
29	7	5310-00-809-8533	96906	MS27183-23
29	8	5310-00-763-8921	96906	MS51967-23
29	9	4030-00-075-7212	19207	10891283
29	10	5306-00-075-7215	19207	10891284
29	11	5340-01-082-9321	19207	8364004
29	12	5310-00-080-6004	96906	MS27183-14
29	13		21450	126670
29	14		19207	8364009
29	15		19207	8364010
29	16	5310-00-732-0558	96906	MS51967-8
29	17	5310-00-851-2682	96906	MS35691-17
29	18		19207	10891229
29	19		19207	10891201
30	1		96906	CS24665-499
30	2	5310-00-741-1028	19207	7411028
30	2	5310-00-741-4684	19207	7414684
30	3	5310-00-209-0698	96906	MS27183-29
30	4	2540-00-999-5584	96906	MS51339-3
31	1		20800	8740192
31	2		19207	5203089
31	3	4030-00-930-3154	96906	MS87006-51
31	4		81349	RR-C-271BTY1GRCC L5STYLE1
31	5	5315-00-679-4535	19207	8740191
31	6	5305-00-050-1077	96906	MS90725-118
31	7	5310-00-809-5998	96906	MS27183-18
31	8	5310-00-834-7606	96906	MS35340-48
31	9	5310-00-768-0318	13305	23507
31	10	2530-00-679-4538	19207	8364023
31	11	5315-00-076-3505	19207	8364026

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FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
31	12		19207	8364024
31	13		52793	13394
31	14		19207	8364027
31	15	5315-00-844-3665	96906	MS16562-68
31	16	2590-00-076-1937	19207	8364032
31	17		19207	8364031
31	18	5315-00-844-5833	96906	MS16562-81
31	19		19207	8364025
31	20		19207	8374028
31	21	2530-00-679-4508	19207	8364034
31	22		02246	125-298
31	23	3110-00-606-1840	19207	8364038
31	24	2530-00-770-9148	19207	8364036
31	25	3110-00-606-1841	19207	7034651
31	26		19207	8740187
31	27	5310-00-588-0386	19207	7350985
31	28		19207	8364029
31	29	5315-00-298-1481	96906	MS24665-357
31	30	4730-00-050-4208	96906	MS15003-1
31	31	5315-00-058-6011	96906	MS16562-74
31	32	4010-00-435-7709	19207	7032176
32	1	5310-00-270-8632	19207	8330821
32	2	5310-00-270-8834	19207	8330813
32	3	5310-00-080-2289	19207	7966195
32	4	2590-01-183-6816	19207	12259830
32	5	2530-00-693-0736	19207	8331539
32	6	2590-00-670-1997	19207	7979974
32	7	5360-00-699-8489	19207	8331541
32	8	5310-00-693-0738	19207	8331542
32	9	5315-00-536-3865	19207	7979971
32	10	5310-00-241-6661	96906	MS51943-42
32	11	5305-00-269-3240	96906	MS90727-64
32	12	5310-00-431-7435	19207	7032134
32	13	5310-00-407-9566	19207	7410218
32	14	5306-00-225-8496	96906	MS90725-31
32	15	5340-00-495-7212	19207	7032135
32	16	5340-00-937-5286	19207	7032136
32	17	5305-00-719-5219	96906	MS90726-111
32	18	5310-00-590-7893	19207	454634
32	19	2590-00-177-8306	19207	7032128
32	20	5306-00-174-4246	19207	7979972
32	21	2590-01-254-6554	19207	12259830-1
32	22	4730-00-172-0034	96906	MS15003-6
32	23	2530-00-679-3154	19207	7032131
32	24	3110-00-100-0633	00006	02420
32	25	3110-00-100-9812	08162	02475
32	26	3020-01-079-3161	19207	11682176
32	27	5365-00-341-2388	19207	8020123
32	28		95026	27X4650
32	29	3040-00-679-3676	19207	7032132
32	30	5315-00-062-5417	96906	MS35674-41

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FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
32	31	5305-00-105-6871	21450	187745
32	32	4730-00-050-4208	96906	MS15003-1
32	33	5365-00-331-2340	18876	8020716
32	34	2590-00-133-9728	19207	7032137
32	35	2590-00-782-3254	19207	7032143
32	36	2530-00-679-3156	19207	7032155
32	37	3120-00-661-9119	19207	7411030
32	38	5315-00-852-4114	96906	MS35674-29
32	39	5315-00-679-3675	19207	7032156
33	1	5305-00-719-5342	96906	MS51965-28
33	2		19207	8759865
33	3	2590-00-076-1944	19207	10906399
33	4		19207	8739876
33	5	5305-00-225-3839	96906	MS90725-8
33	6	5365-00-168-2762	19207	10860091
33	7	5310-00-761-6882	96906	MS51967-2
33	8	5310-00-582-5965	96906	MS35338-44
33	9	2590-00-076-1948	19207	10914247
33	9	2590-00-076-1949	19207	10933282
33	10	5330-00-679-4524	19207	8739881
33	11	2590-00-796-2622	19207	8759746
33	12		19207	8739883
33	13	2590-00-679-4507	19207	7341463
33	14	5306-00-796-2621	19207	10860938
33	15	5305-00-958-5246	96906	MS35190-289
33	16		19207	8759747
33	17	5305-00-983-8084	96906	MS16997-60
33	18	4730-00-909-8627	96906	MS35842-13
33	19	2590-00-022-6727	19207	8759766
33	20	2590-00-076-1942	19207	10860086
33	21	2590-00-679-4536	19207	10860085
33	22	5305-00-051-0827	96906	MS90725-164
33	23	5310-00-800-0695	96906	MS35335-39
33	24	5310-00-842-1490	96906	MS35692-37
33	25	5315-00-005-0442	96906	MS24665-285
33	26	2590-00-076-1938	19207	8759862
33	27	5120-00-229-5711	19207	10914359
33	28		19207	8759904
33	29	5310-00-637-9541	96906	MS35338-46
33	30	5305-00-269-3216	96906	MS90725-66
33	31		19207	8759898
33	32		19207	8759899
33	33	2590-00-808-6139	19207	8759903
33	34	5305-00-269-3215	96906	MS90725-65
33	35	5310-00-732-0558	96906	MS51967-8
33	36	5310-00-080-6004	96906	MS27183-14
33	37		19207	8759860
33	38		19207	8759859
33	39		19207	8759823
33	40	5315-00-679-4521	19207	8740175
33	41	5310-00-067-6356	96906	MS51922-57

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FIG.	ITEM	STOCK NUMBER	CAGEC	PART NUMBER
33	42	5310-00-809-8533	96906	MS27183-23
33	43		19207	6759867
33	44	2590-00-861-7078	19207	10906407
33	45		19207	544160
33	46		19207	10933281
33	46	2590-00-125-3795	19207	10914245
33	47	5365-00-721-6876	96906	MS16624-1125
33	48		19207	10906406
33	49	2590-00-862-2675	19207	10860937
33	50	5310-00-834-8732	96906	MS35691-33
33	51	5310-00-809-5998	96906	MS27183-18
33	52		19207	7341458
33	53	5305-00-724-5839	96906	MS51963-99
33	54		19207	7341461
33	55		19207	7341460
33	56		19207	7341459
33	57		19207	8739882
33	58		19207	10860936
34	1		19207	8739798
34	2		10001	1785042
34	3	3020-00-679-4518	19207	8739795
34	4	5340-00-276-5649	21450	541401
34	5		19207	8739799
34	6	4730-00-050-4208	96906	MS15003-1
34	7		19207	8675963
34	8		19207	8739797
34	9	5310-00-514-6674	96906	MS35335-34
34	10	5310-00-880-7744	96906	MS51967-5
34	11		43991	110AC
34	12	5315-00-616-5505	96906	MS35756-101
34	13	5315-00-616-5524	96906	MS35756-10
34	14	2590-00-076-1939	19207	8740168
34	15	3020-00-679-4488	19207	8739794
34	16		19207	8739787
34	17	3020-00-679-4814	19207	8739792
34	18		19207	8739786
34	19	5305-00-983-6622	96906	MS16997-81
34	20		19207	8740166
34	21	5330-00-679-4485	19207	8740167
34	22	3110-00-516-5850	52676	62042J
34	23	5310-00-679-4559	19207	8739788
34	24	3020-00-679-4510	19207	8739793
34	25		19207	8740170
34	26	5315-00-616-5522	96906	MS35756-12
34	27	3110-00-516-5289	21450	700076
34	28		44674	20020
34	29	5306-00-225-8516	96906	MS90725-52
35	1	2590-00-076-1946	19207	10914243
35	1	2590-00-076-1947	19207	10914244
35	2		19207	10860065
35	3		19207	10899780

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35	4		19207	10914241
35	4		19207	10914242
35	5	5305-01-063-5055	96906	MS90725-400
35	6	5310-00-080-6004	96906	MS27183-14
35	7	5310-00-637-9541	96906	MS35338-46
35	8	5310-00-732-0559	96906	MS51968-8
35	9	5305-00-269-2818	96906	MS90726-74
36	1	2590-00-895-7306	19207	10860068
36	2		19207	10899780
36	3		19207	10906396
36	4	5310-00-982-4908	96906	MS21045-6
36	5	5310-00-080-6004	96906	MS27183-14
36	6	5306-00-206-2865	88044	AN6-14A
36	7		96906	MS5795-714
36	8	5365-00-929-8927	19207	8759769
36	9		19207	7415340
36	10		19207	10860065
36	11	2590-00-895-7307	19207	10860069
36	12		19207	108063967
36	13		19207	10899780
36	14		19207	10860065
37	1	5310-00-761-6882	96906	MS51967-2
37	2	5310-00-582-5965	96906	MS35338-44
37	3	5310-00-809-4058	96906	MS27183-10
37	4		19207	10906417
37	4	2590-00-076-1945	19207	10906418
37	5		19207	10860093
37	6		19207	10860146
37	7	5305-00-071-2242	96906	MS90725-9
37	8		19207	10860145
38	1	2590-00-860-0531	19207	8387680
38	2	5305-00-187-9934	96906	MS16997-142
38	3	5310-01-073-8614	88044	AN935-816
38	4	4730-00-050-4203	96906	MS15001-1
38	5	5310-00-860-0529	19207	10885450
38	6		21450	142896
38	7	2590-00-860-0530	19207	10885459
38	8	5315-00-067-5093	96906	MS35671-56
38	9	5315-00-068-2498	96906	MS35677-51
38	10		19207	10885454
38	11	2590-00-582-5503	19207	8005089
38	12	5310-00-341-2387	18876	8020015
38	13	5310-00-225-6408	96906	MS51922-53
38	14	5330-00-899-5217	19207	8683884
38	15	5330-00-860-0535	19207	10885446
38	16	5305-00-984-4983	96906	MS35206-226
38	17	5340-00-076-1943	19207	10885448
38	18	5315-00-860-0532	19207	10885443
38	19	3040-00-076-0049	19207	10885476
38	20	3120-00-899-5216	19207	8683896
38	21		24617	187851

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38	22	4730-00-050-4208	96906	MS15003-1
38	23		19207	7328405
38	24	3020-00-571-6104	19207	7520774
38	25	3110-00-142-4351	01957	266697
38	26	3040-00-860-0536	18876	7089984
38	27		19207	7520829
38	28		19207	7696416
38	29		19207	7520777
38	30	5315-00-690-0544	19205	7793470
38	31	3120-00-899-4072	19207	7328402
38	32	5340-00-076-0050	19207	10891299
38	33		21450	706915
38	34		19207	7328401
39	1		18876	10885474
39	2	5305-00-724-5885	96906	MS51963-104
39	3	5310-00-860-0528	19207	10885442
39	4	2590-00-860-0534	19207	10885452
39	5	3120-00-899-1355	19207	10885445
39	6		96906	MS25338-50
39	6	5310-00-045-5001	96906	MS35340-50
39	7	5305-00-724-5910	96906	MS90725-162
39	7	5305-00-724-7219	96906	MS90728-160
39	8		96906	MS90725-158
39	9	5305-00-724-7222	96906	MS90728-164
39	10		19207	10891278
39	11	5365-00-871-2881	19207	5703039
39	12		19207	10885467
39	13	5310-00-407-9566	19207	7410218
39	14	5306-00-225-8496	96906	MS90725-31
39	15	5310-00-732-0558	96906	MS51967-8
39	16	5310-00-637-9541	96906	MS35338-46
39	17	5305-00-782-9489	96906	MS90728-66
39	18	5340-00-076-0044	19207	10885453
39	19	5305-00-724-7223	96906	MS90728-165
39	20	5306-00-226-4822	96906	MS90728-29
39	21	5310-00-081-4219	96906	MS27183-12
39	22	3040-00-076-0048	19207	10885466
39	23	5360-00-860-0524	19207	8683898
39	24	5310-00-550-4242	00000	7984623
39	25	5310-00-080-6004	96906	MS27183-14
39	26	5305-00-269-3216	96906	MS90725-66
39	27	3040-00-076-0046	19207	10885462
39	28		19207	10891298
39	29	3130-00-076-0043	19207	8683881
39	30	5310-01-073-8614	88044	AN935-816
39	31	5305-00-071-2074	96906	MS90728-118
40	1	5310-00-763-8901	96906	MS51968-23
40	2	5310-00-842-1190	96906	MS35691-61
40	3	5340-00-075-9147	19207	10914500
40	4	5310-00-194-1483	96906	MS35333-44
40	5	5340-00-075-9142	19207	8363961

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40	6	5310-00-225-6408	96906	MS51922-53
40	7	3120-00-679-3159	19207	8363971
40	8	3120-00-679-3158	19207	8363972
40	9	5315-00-679-3160	19207	8363973
40	10	5305-00-728-6291	96906	MS51973-74
40	11		08288	MSS5305-43
40	12	2510-00-679-3681	19207	8363955
40	13	5310-00-732-0560	96906	MS51968-14
40	14	5340-00-679-3682	19207	8363966
40	15	5305-00-655-9404	19207	8363968
40	16	5306-00-053-0512	19207	8389628
41	1	5306-00-679-4573	19207	10860124
41	2	5310-00-679-4574	19207	10860123
41	3		19207	7341462
41	4	2540-00-679-4519	19207	7092048
42	1	5310-00-835-2037	96906	MS35691-53
42	2	5310-00-763-8905	96906	MS51968-20
42	3	5310-00-424-1452	19207	7349028
42	4	5365-00-350-0155	19207	7974916
42	5	5310-00-424-1456	19207	7349029
42	6		19207	8363969
42	7	5305-00-726-2572	96906	MS90726-178
42	8	5305-00-679-3189	19207	8363970
42	9	2530-00-770-7070	19207	7707070
43	1	5310-00-732-0558	96906	MS51967-8
43	2	5310-00-637-9541	96906	MS35338-46
43	3		19207	10891219
43	4	2540-00-075-9146	19207	10891260
43	5	5305-00-688-2111	96906	MS90728-63
44	1		19207	10860099
44	2	5340-00-075-9145	19207	10933266
44	3		19207	10860001
44	4	5305-00-269-3209	96906	MS90725-58
44	5	5310-00-637-9541	96906	MS35338-46
44	6	5310-00-732-0558	96906	MS51967-8
45	1		19207	8759629
45	2		19207	8759630
45	3		19207	8759653
45	4		19207	9759654
45	5		19207	10860050
45	6	5340-00-692-9212	19207	7064602
45	7		19207	588463
45	8	5305-00-269-3209	96906	MS90725-58
45	9		96906	MS38338-46
45	10	5310-00-732-0558	96906	MS51967-8
46	1	9905-00-202-3639	19207	7348221
46	1	9905-00-205-2795	19207	6161059A
46	1	9905-00-205-2795	19207	6161059A
46	2	5310-00-550-1130	96906	MS35333-40
46	3		21450	171764
46	3	5305-00-988-1721	96906	MS35206-277

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47	1	9905-00-679-4530	19207	10860102
47	1	9905-00-861-7075	19207	8759938
47	2		21450	171764
47	2		21450	171764
47	3	5305-00-253-5632	96906	MS21318-58
47	4	9905-00-899-1507	19207	10891268
47	5	9905-00-899-1508	19207	10891266
47	6		64959	171732
47	7	9905-00-282-7489	19207	7979373
47	7	9905-00-679-4539	19207	10860103
48	1	5120-00-711-8418	19207	7059814
48	1	5120-00-795-0946	19207	7950946

APPENDIX G
TORQUE LIMITS

G-1. SCOPE.

a. This appendix lists standard torque values, as shown in Table G-1, and provides general information for applying torque.

b. Special torque values are indicated in the maintenance procedures for applicable components.

G-2. GENERAL.

a. Always use the torque values listed below when the maintenance procedure does not give a specific torque value.

b. Unless otherwise specified, standard torque tolerance shall be ± 10%.

c. Torque values are based on clean, dry threads. Reduce torque by 10% when engine oil is used as a lubricant.

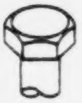
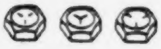
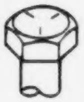
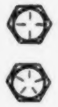
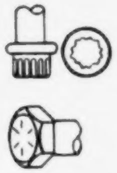
d. Reduce torque by 20% when new plated capscrews are used.

e. Capscrews threaded into aluminum may require reductions in torque of 30% or more of Grade 5 capscrew torque. Capscrews threaded into aluminum must also attain two capscrew diameters of thread engagement.

CAUTION

If replacement capscrews are of a higher grade than originally supplied, use torque specifications for the original. This will prevent equipment damage due to overtorquing.

Table G-1. Torque Limits.

Current Usage		Much Used	Much Used	Used at Times	Used at Times
Quality of Material		Indeterminate	Minimum Commercial	Medium Commercial	Best Commercial
SAE Grade Number		1 or 2	5	6 or 7	8
Capscrew Head Markings Manufacturer's marks may vary These are all SAE Grade 5 (3 line)		 			
Capscrew Body Size Inches – Thread		Torque lb.-ft. (N•m)	Torque lb.-ft. (N•m)	Torque lb.-ft. (N•m)	Torque lb.-ft. (N•m)
¼	20	5 (7)	8 (11)	10 (14)	12 (16)
	28	6 (8)	10 (14)		14 (19)
5⁄16	18	11 (15)	17 (23)	19 (26)	24 (33)
	24	13 (18)	19 (26)		27 (37)
⅜	16	18 (24)	31 (42)	34 (46)	44 (60)
	24	20 (27)	35 (47)		49 (66)
7⁄16	14	28 (38)	49 (66)	55 (75)	70 (95)
	20	30 (41)	55 (75)		78 (106)
½	13	39 (53)	75 (102)	85 (115)	105 (142)
	20	41 (56)	85 (115)		120 (163)
9⁄16	12	51 (69)	110 (149)	120 (163)	155 (210)
	18	55 (75)	120 (163)		170 (231)
⅝	11	83 (113)	150 (203)	167 (226)	210 (285)
	18	95 (129)	170 (231)		240 (325)
¾	10	105 (142)	270 (366)	280 (380)	375 (508)
	16	115 (156)	295 (400)		420 (569)
⅞	9	160 (217)	395 (536)	440 (597)	605 (820)
	14	175 (237)	435 (590)		675 (915)
1	8	235 (319)	590 (800)	660 (895)	910 (1234)
	14	250 (339)	660 (895)		990 (1342)

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By Order of the Secretary of the Army:

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General, United States Army
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2-12	2-13a	N/A	N/A

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

Procedure to level The M514 is not accurate as written. Steps 6 and 7 are reversed.

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TEAR ALONG PERFORATED LINE

THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 Lb
1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches
1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet
1 Sq Kilometer = 1,000,000 Sq Meters = 0.386 Sq Miles

CUBIC MEASURE

1 Cu Centimeter = 1000 Cu Millimeters = 0.06 Cu Inches
1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

TEMPERATURE

5/9 (^{0}F – 32) = ^{0}C
212^{0} Fahrenheit is equivalent to 100^{0} Celsius
90^{0} Fahrenheit is equivalent to 32.2^{0} Celsius
32^{0} Fahrenheit is equivalent to 0^{0} Celsius
9/5 C^{0} + 32 = F^{0}

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	**Miles per Hour**	**0.621**

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